GOVERNMENT OF PUERTO RICO
PUERTO RICO AQUEDUCT AND SEWER AUTHORITY
SAN JUAN, PUERTO RICO

Autoridad de Acueductos
y Alcantarillados

VOLUME A

PROJECT DOCUMENTS

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)

ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

ENG. LUIS R. GONZÁLEZ DELGADO
PRASA EXECUTIVE PRESIDENT

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST) ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

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GOVERNMENT OF PUERTO RICO
PUERTO RICO AQUEDUCT AND SEWER AUTHORITY
SAN JUAN, PUERTO RICO

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

A.1 ADVERTISEMENT

Sealed bids for the above-mentioned project will be received by the Puerto Rico Aqueduct and Sewer Authority (PRASA) until 10:30am **of April 29, 2027,** at the Board of Awards of the PRASA, eight floor of PRASA Main Building, located at 604 Barbosa Avenue, Hato Rey, Puerto Rico. The bid proposals shall be in accordance with the specifications and other Bidding Documents prepared by PRASA. Just after the deadline mentioned above, all received bids will be publicly opened and read aloud on the eight floor of PRASA's Board of Awards.

All bidders must include with their proposals a certification from the Bidder Registration Office of the General Service Administration (Registro Único de Licitadores de la Administración de Servicios Generales) indicating they are eligible to participate in bids from Agencies of the Executive Branch of the Government of Puerto Rico.

Prospective bidders can attend a non-compulsory pre-bid meeting to be held at Carretrera PR-131 Km. 2.5, Barrio Guilarte, Adjuntas, Puerto Rico; with coordinates (18.172068, -66.77151) on January 27, 2027, at 10:00 a.m. For additional information regarding the meeting place, please contact Eng. Yulianna De La Cruz at telephone (787) 693-7777 or at ydelacruz@ecreng.com. All questions arising concerning this project shall be submitted ten (10) calendar days before the bid opening date.

The present project consists in the rehabilitation of the Guilarte WTP as part FEMA's Federal Accelerated Awards Strategy (FAASt) initiative to restore this facility to pre-disaster function and prevent repetitive damage. Improvements to the plant's infrastructure to comply with industry standards, codes, regulations and safety findings will also be part of this project. All in accordance with the construction drawings, and specifications prepared by PRASA.

Bidding Documents will be available from **November 18, 2026**, using Portal AAA at https://www.acueductos.pr.gov/infraestructura/aaa-subastas. Bidders shall gain access to download the digital documents on the above specified date through the Portal AAA website https://www.acueductos.pr.gov/infraestructura/aaa-subastas. Hard copies or CDs shall not be provided by PRASA.

The PRASA's Cost Estimate for this project is $9,637,152.23

Bidders shall submit proposals on or before the time and date previously mentioned at the Documents Administration Section. All bids received will be publicly opened and read aloud on the Board of Awards.

Each proposal must be accompanied by a Proposal Guarantee, a certified check or a bid bond from a reliable surety company authorized to do business in Puerto Rico and satisfactory to the PRASA, in an amount equal to five (5%) percent of the proposal.

The Proposal Guarantee will be accrued in favor of PRASA to pay for any damage or loss to PRASA in case the successful Bidder shall neglect or refuse to enter into a contract in accordance with the proposal. The successful Bidder will be required to obtain and pay for performance, payment, and all other bonds, as specified in the Contract Documents.

PRASA has issued this bid in compliance with the public policy of the Government of Puerto Rico as established in Art. 3 of Law No. 42 of January 21st, 2018, "Ley de Preferencia para Contratistas y Proveedores Locales de Construcción".

Law No. 42-2018 states that all governmental entities are required to reserve at least twenty percent (20%) of procurement and construction contracts to services rendered by Local Business or Providers of Construction Services, as defined in Art. 2 (B) and (C) of said law. PRASA affirms and recognizes this preference policy, therefore Law 42-2018 applies to all bidding processes conducted at PRASA. Bidders that comply with all the requirements and parameters established in Law 42-2018 will have the right to claim PRASA to apply the percentage of preference at the adjudication of bid.

The Puerto Rico Aqueduct and Sewer Authority reserve the right to consider bids for ninety (90) calendar days after bid opening date before awarding any contract and the right is reserved to waive any informalities, to accept any or all bids, and to reject any or all bids in the benefit of the best interest of PRASA. The award will be made to the lowest, responsive, responsible Bidder. The responsiveness and responsibility of the Bidders will be determined by the PRASA.

Bidders must certify that they do not, and will not, maintain or provide for their employees any facilities that are segregated on a basis of race, color, creed, or national origin. The requirements for bidders and contractors under these orders are explained in the specifications.

This project will be financed with funds from the Puerto Rico Aqueduct and Sewer Authority (PRASA), the Federal Management Emergency Agency (FEMA) under the FEMA’s Accelerated Obligation Strategy (known as FAAST), and the Community Development Block Grant Disaster Recovery (CBDG-DR) Program. This project will be in compliance with all applicable state and federal environmental laws and regulations.

Eng. Luis R. González Delgado
PRASA Executive President
November 16, 2026

GOVERNMENT OF PUERTO RICO
PUERTO RICO AQUEDUCT AND SEWER AUTHORITY
SAN JUAN, PUERTO RICO

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

A.2 DESCRIPTIVE MEMOIR

The Puerto Rico Aqueduct and Sewer Authority (PRASA) proposes the rehabilitation of the Guilarte Water Treatment Plant located in the municipality of Adjuntas.

The proposed project consists of the improvements to the following items:

1. Installation of one flash mix unit.
2. Installation of flow splitter unit.
3. Installation of one compact water treatment plant module consisting of a 2-stage flocculator, and a sedimentation basin provided with tube settlers.
4. Construction of two new filters provided with piping, valving, controls and instrumentation for automatic operation.
5. Improvements to the existing Clearwell including a new chlorine diffuser and baffle curtains.
6. Construction of a new elevated concrete wash water storage tank.
7. Construction of a new parking area
8. Construction of a new retaining wall.
9. Installation of new distribution pumps and associated appurtenances
10. Installation of new wash water pumps and associated appurtenances.
11. Installation of a new emergency electrical generator.
12. Improvements to the operations building.
13. Installation of a new chemical handling and feed system.
14. Installation of a new continuous monitoring system.
15. Installation of new instrumentation and electrical systems.
16. Installation of new yard piping.
17. Relocation of existing blowers and the construction of new hoist system.
18. Construction of new pipe supports.

This project will benefit approximately 513 families in the Municipality of Adjuntas, Puerto Rico.

This project will be financed with funds from the Puerto Rico Aqueduct and Sewer Authority (PRASA), the Federal Management Emergency Agency (FEMA) under the FEMA's Accelerated Obligation Strategy (known as FAAST), and the Community Development Block Grant Disaster Recovery (CDBG-DR) Program.

GOVERNMENT OF PUERTO RICO
PUERTO RICO AQUEDUCT AND SEWER AUTHORITY
SAN JUAN, PUERTO RICO

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST) ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

A.3 SUPPLEMENTARY INSTRUCTION TO BIDDERS

ARTICLE 1. - GENERAL

Section 1.01 Definition of Terms

Unless otherwise specified or required the definition of terms used in the Documents and Contract Documents are found in Article 1 of the General Conditions titled Definitions.

Section 1.02 Organization of Documents

The documents are organized into three main parts. Specific information on the content of these volumes is found in their index.

Volume A contain some or all the following project documents: Advertisement, Descriptive Memoir, Supplementary Instructions to Bidders including forms that must be submitted in the Proposal, Conceptual Documents, Alternatives Form, Allowances Form, Proposal Form, Supplementary Conditions, Supplementary Technical Specifications, Form of Agreement, Endorsements, Reports and other documents included for the specific project.

Volume B dated **January 2020** contains the following standard documents: Standard Instructions to Bidders, General Conditions, Standard Technical Specifications, and General Information for Contractors, OCIP, etc.

Volume C consists of the Construction Drawings, which are part of the Bidding and Contract Documents. (If applicable).

Section 1.03 Proposals

1. Proposal shall be submitted in sealed envelopes, plainly addressed, ink or typed, as follows:
   Board of Awards
   Infrastructure Offices
   Puerto Rico Aqueduct and Sewer Authority
   604 Barbosa Avenue (8th Floor)
   Hato Rey, Puerto Rico 00917-4310.

2. The following note shall be written, ink or typed, at the lower left corner of the envelope: Proposal for the **GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST), ADJUNTAS, PUERTO RICO, CIP NUMBER: 4-01-6012, BID NUMBER: 27-SP-026.**

3. The above-mentioned envelope shall be enclosed in another sealed envelope addressed and mailed or delivered to:

   Board of Awards
   Infrastructure Offices
   Puerto Rico Aqueduct and Sewer Authority
   604 Barbosa Avenue (8th Floor)
   Hato Rey, Puerto Rico 00917-4310

4. The bid number, date and time of bid opening, and the name, address and telephone number of the Bidder shall be clearly written on the envelope.

Section 1.04 Selection Period

1. The selection of the contract, if it were selected, will be made within **ninety (90)** calendar days after the opening of proposals. This period of time is the Selection Period. The successful Bidder will be mailed a Notice of Selection to the address shown on his proposal, indicating that his proposal has been accepted and that he has been awarded the contract. No proposal shall be withdrawn within the selection period.

2. In the event that the selection is not made within the Selection Period, any Bidder whose Proposal Guaranty has been retained shall have the right to withdraw his proposal without penalty unless the Selection Period is extended by mutual written consent.

Section 1.05 Construction Drawings

1. The Construction Drawings for the entire project are **156** sheets. Numerical dimensions will prevail over scaled dimensions and where dimensions are omitted and the Bidders are in doubt they shall request information from PRASA.

2. Unless the Construction Drawings or specifications indicate otherwise, the datum to which elevations are referred to, shown on the Construction Drawings and in the specifications, is the mean sea level.

3. The proposed project is located at the site shown on the location plan.

Section 1.06 Completion Date

1. Contractor agrees to proceed at once with the preparation of materials and to begin the construction of all work which is possible for him to begin prior to the receipt of materials and to reach Substantial Completion on or before the expiration of **four hundred fifty (450)** consecutive calendar days from the Date of Commencement of Work indicated in the Notice to Proceed from Contracting Officer.

2. Contractor agrees that the Work shall reach Final Acceptance and be ready for final payment within sixty (60) Days from the termination of the period specified in paragraph 1, of this section for achievement of Substantial Completion of Work, in accordance with the provisions of Section titled "Contract Time" of the General Conditions. Contracting Officer may specify at the pre-construction conference, a period for achieving Final Acceptance after the achievement of Substantial Completion that is longer than the 30 consecutive calendar days specified herein, but never more than 60 consecutive calendar days. The final payment shall be made on the period specified in the Contract Documents after the date of Final Acceptance.

Section 1.07 Changes in Law

Any change in law during the bidding process, including, without limitation, any changes in applicable tax law, that causes an increase in the Contractor's cost in supplying any products or services to PRASA shall be the Contractor's responsibility.

PRASA advises prospective Bidders to consult their CPA and/or the Treasury Department in order to get informed of the required taxes for acquisition of products, equipment and services for any particular project.

Section 1.08 Location of Work

The proposed works are located at the municipality of ADJUNTAS, PUERTO RICO.

Section 1.09 Obtaining Information

During the request for proposals period only administrative, and technical information concerning the proposals can be obtained from:

Written inquires: Board of Awards
Infrastructure Offices
Puerto Rico Aqueduct and Sewer Authority
604 Barbosa Avenue (8th Floor)
Hato Rey, Puerto Rico 00917-4310

E-mail inquires: addendumspmc@acueductospr.com

Fax Inquires: (787) 993-9027

Telephone: (787) 620-2277, Extensions 1108, 1109 & 1139

Section 1.10 Project Sign

This project will be financed with funds from the Federal Management Emergency Agency (FEMA); therefore, the guidelines established for the signage of such projects must be followed. Please refer to the COR3 Memo entitled "Rótulos en Proyectos de Construcción" of October 21, 2025, and the project sign template include in A.6 – Supplementary General Conditions of this Volume A.

ARTICLE 2. – LIST OF DOCUMENTS TO BE SUBMITTED WITH THE PROPOSAL

PRASA reserves the right to reject any or all Proposals, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Proposals. PRASA further reserves the right to reject the Proposal of any Bidders whom it finds, after reasonable inquiry and evaluation, to be non-responsible. PRASA also reserves the right to waive all informalities not involving price, time, quantity, quality, delivery, changes in the Work, compliance with laws and regulations of federal funding agency requirements, as applicable.

Prospective Bidders will submit in their proposals, duly completed, and signed, one (1) valid original and two (2) true and exact copies of the following documents using the forms provided below in Article 3. The original will be submitted in a separate envelope. Both envelopes will be submitted following the instructions provided in the proposal's documents. The Proposal will include the following information:

1. The proposal form found below in Article 3.
2. Proposal Guarantee: The proposal Bond Form is found in Article 3 of this Volume and must be submitted following the provisions of the Proposal Form, in its section titled Additional Request Information and Notes, subsection 4, and the instructions provided in the Bid Bond Form.
3. Firm Information, Experience and Equipment Statement. This form is found below in Article 3.
4. Site Visit Affidavit. This form is found below in Article 3.
5. Non-Collusive Affidavit. This form is found below in Article 3.
6. An eligibility certificate from the Bidder Registration Office of the General Service Administration (***Registro Único de Licitadores de la Administración de Servicios Generales)*** indicating Bidder is eligible to participate in proposals from Agencies of the Government of Puerto Rico.
7. Prospective bidders shall provide with Proposal their own **Cost Breakdown** format including the indicated unit price and allowance, if any.
8. Declaration under oath before a notary public, as required by Law 2 of January 4, 2018. This form is found below in Article 3.
9. Declaration under oath before a notary public, regarding the bidder's compliance with the Law 42 of January 21, 2018. The affidavit shall be accompanied by the certificate of incorporation from the Puerto Rico Department of State. This form is found below in Article 3. (If applicable)
10. Certification of use cement made in Puerto Rico (OE-2018-033).
11. FEMA Declaration Clauses (Lobbying). See Article 3.
12. FEMA Conflict of Interest and Unfair Competitive Advantage Certification. See Article 3.
13. Evidence of the System for Award Management (SAM) Registration.

ARTICLE 3. – FORMS

This Article contains the available forms of documents to be submitted in the Proposal.

Note: Space below in this page intentionally left blank.

1. PROPOSAL FORM
GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

To: PRASA Executive President
Puerto Rico Aqueduct and Sewer Authority
San Juan, Puerto Rico

I (We) hereby certify that I (we) have examined the site of the Work and read the Agreement, together with all Documents, including the Standard and Supplementary Instructions to Bidders, Supplementary Content, all Addenda, Construction Drawings, Bonds, and Contract Documents; and fully understand the meaning of all of them; and if awarded the contract hereby agree that I (we) will comply with all the terms, covenants and agreements set forth therein.

I (We) certify that the prices in this proposal have been arrived at independently without collusion, consultation, communication, or agreement with any other Proponent or with any competitor for the purpose of restricting competition. No attempt has been made or will be made by myself or any member of my organization to induce any other person or organization to submit or not to submit a proposal on this project, or otherwise take any action in restraint of free competitive process on this project. This proposal is made in pursuance of and subject to all terms and conditions of the Standard and Supplementary Technical Specifications, the Agreement, Supplementary Content, Construction Drawings (if applicable) and all other Contract Documents pertaining to the work to be done, all of which have been examined by the undersigned.

I (We) submit this proposal with an entire knowledge of the kind, quality and quantity of the materials and workmanship required, and should it be accepted will execute the Agreement within ten (10) calendar days from the date when the written Notice of Selection of the contract is delivered at the address given on this proposal. The name and address of the corporate surety with which the Bidder proposes to furnish the required insurance and bonds for the true execution of the Work is as follows:

_____

_____

_____.

I (We) certify that this proposal is submitted with an entire knowledge of the kind, quality and quantity of the material and workmanship required, and should it be accepted will execute the Agreement within ten (10) calendar days after the date of Notice of Award furnishing the required insurance and bonds for the true execution of the Work; agreeing to achieve Substantial Completion within **four hundred fifty (450)** consecutives calendar days from the Date of Commencement of Work indicated in the Notice to Proceed. The Work must achieve Final Acceptance and be ready for final payment within 60 consecutive calendar days from termination of the period specified for achieving Substantial Completion. PRASA may specify at the initial construction conference a period for achieving Final Acceptance after the achievement of Substantial Completion that is longer than the 30 consecutive calendar days specified herein, but never more than 60 consecutive calendar days. The final payment shall be made on the period specified in the Contract Documents after the date of Final Acceptance.

I (we) agree to receive as full compensation for completing the Work including furnishing all materials, labor, tools, plant, equipment, and others called for under these specifications and necessary for the **GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST), ADJUNTAS PUERTO RICO, CIP NUMBER: 4-01-6012, BID NUMBER: 27-SP-026**, as specified, complete and finished in every detail, and in full accordance with the Contract Documents which are hereby made part and parcel of this proposal as follows:

1. Work to be paid on a lump sum basis:

   a. For the **GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST), ADJUNTAS, PUERTO RICO, CIP NUMBER: 4-01-6012, BID NUMBER: 27-SP-026** as specified for all Administrative and General Conditions related to the Scope of Work described in this Volume, including **Allowances**, bonds and insurances, patent, taxes, fees and permits, mobilization and demobilization, pipes, excavations, and protection (including installation and leaving in place at his own criteria of all necessary measures and/or structures for protection of excavation), backfill, demolition and replacement and replacement of asphalt and/or concrete pavements (including furnishing and placing black base material along trench excavation up to existing grade if necessary), curbs, sidewalks, and any other miscellaneous items or resources needed to complete the project for the lump sum price of:_____ _____**DOLLARS ($_____).**

The total amount for item 1a, is the Contract Price of _____ _____ **DOLLARS ($** _____).

Allowances:

Document A.4 – Allowances Form, is an integral part of this proposal. All the Allowances included in A.4 Allowances Form are part of the Work and are included as part of the Work to be paid on a lump sum basis stated above.

Payment to the Contractor for this Work will be subject to the terms, condition and schedule indicated in the Contract Documents (refer to Article titled "INVOICES AND PAYMENT" of the General Conditions).

I (we) hereby acknowledge receipt of the following Addenda. All modifications indicated therein are included in this proposal:

Addendum Number	Date

CONTRACTOR

Seal	**Firm Name:** _____ _____ **By:** _____ **Typed Name:** _____ **Title:** _____
Signature: _____ **Typed Name:** _____ **Tittle:** _____ (Authorized Representative (s))	**Signature:** _____ **Typed Name:** _____ **Tittle:** _____ **Date:** _____

Note: Signature of each principal is required if Contractor is a Partnership or a Consortium.

Bidder's Street Address: No: _____ Street: _____

City: _____ Telephone: _____ Fax: _____

Bidder Mailing Address: _____

City: _____ Zip Code: _____

e-mail (if available) _____

Additional Request of Information and Notes:

1. For PRASA's statistic purpose we are requiring the following information:

   The approximate number of new employees to be hired in this project (not including the permanent employees of the Contractor will be _____.

2. This Proposal must be fully completed. The prices must be written in ink and also stated in figures. In case of variation, the written prices shall govern. All correction of errors, erasures, blots, etc., must be initialed.

3. The list of documents that must be submitted with the proposal is found in Article 2. - "List of documents to be submitted with the Proposal" of the Standard Instructions to Bidders.

4. The insurance policies and bonds must be submitted to PRASA in ten (10) calendar days from the selection date indicated in the Notice of Selection.

2. BID BOND

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____

_____

as Principal, and _____ as Surety, are hereby held and firmly bound unto Puerto Rico Aqueduct and Sewer Authority, San Juan, Puerto Rico, as owner in the penal sum of _____

_____($_____)

for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed, this _____ day of _____ 20 _____.

The condition of the above obligation is such that whereas the principal has submitted to Puerto Rico Aqueduct and Sewer Authority, San Juan, Puerto Rico, a certain Proposal, attached hereto and hereby made a part hereof to enter into a contract in writing, for the: **GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST), ADJUNTAS, PUERTO RICO, CIP NUMBER: 4-01-6012, BID NUMBER: 27-SP-026.**

NOW, THEREFORE

1. If said Proposal shall be rejected, or in the alternate,

2. If said Proposal shall be accepted and the Principal shall execute and deliver a contract with owner for the purpose stated above and shall furnish a bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Proposal, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

   The Surety, for value received, hereby stipulates, and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may have accepted such Proposal; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, The Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINCIPAL:	**SURETY:**
Firm Name: _____	Firm Name: _____
By: _____ (Typed Name)	By: _____ (Typed Name)
Authorized Representative	Authorized Representative
Address: _____	Address: _____
_____	_____
Signature: _____	Signature:
Date: _____	Date: _____
Seal:	Seal:

Note:

If the Contractor is a partnership, all partners should execute BOND.

This Bid Bond will be valid for <u>NINETY (90)</u> days after the Proposal opening.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current List (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

3. FIRM INFORMATION, EXPERIENCE AND EQUIPMENT STATEMENT FORM
GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

I. FIRM INFORMATION

Submitted by _____

with principal office at _____

To: PUERTO RICO AQUEDUCT AND SEWER AUTHORITY

II. EXPERIENCE

1. How many years has your organization been in business as a general Contractor under your present business name? _____

2. What projects similar to this one has your organization completed?

Class of Work (1)	Contract Amount (2)	When Complete (3)	Name and Address of Engineer or Owner (4)

3. Have you ever failed to complete any work awarded to you?
   If so, state where and why _____

4. What is the construction experience of the principal individuals of your organization:

Name	Title	Years of Experience	Magnitude and Type of Work	Capacity

5. All Bidders shall submit verifiable evidence of their construction experience in projects of similar type and magnitude as **GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST), ADJUNTAS, PUERTO RICO, CIP NUMBER: 4-01-6012, BID NUMBER: 27-SP-026**. Bidders shall clearly state if the work was completed as a main or as a sub-contractor. All other previous experience submitted by bidders shall not be considered by PRASA as experience resulting in non-responsiveness with the Article 2, List of Documents to be Submitted in the Proposal.

III. Contractor's Distribution of Project Resources

Instructions: Fill out one or more pages (as needed) for each project underway and for each future project including the project on this proposal.

Project Name_____

Project Owner _____

Project Start Date _____ Actual Estimated Project Completion Date _____

Total Contract Amount in $ (including Change Orders) $_____

% Complete [(total pay request certified / total project cost) x 100%] _____%

Equipment used in this project		**Principal Personnel Engineers and Foremen**	
Equipment	**Owner of this equipment**	**Name**	**Title**

Page 1 of ___

Continuation: Project Resource Distribution for: (Name or Project) _____			
Equipment		**Principal Personnel Engineers and Foremen**	
Equipment used in this project	**Owner of this equipment**	**Name**	**Title**

Page ___ of ___

IV. EQUIPMENT

6. What equipment do you own that is available for the proposed Work?

Item	Description, Size, Capacity, etc.	Condition	Years of Service

V. AFFIDAVIT

I _____, of legal age, _____
(civil status)
a resident of _____ being duly sworn say:

1. That the personal circumstances above stated are correct.
2. That have been authorized to furnish information to the Puerto Rico Aqueduct and Sewer Authority to support the foregoing Proposal.
3. That the information supplied on the foregoing Financial, Experience and Equipment Statement is true, correct, and complete to the best of my knowledge and belief.

_____
Signature if Affiant

Affidavit No. _____

Sworn and subscribed to before me, the undersigned Notary Public, by _____
_____ to me personally known and personally known to me to be of legal age, _____
_____

IN WITNESS WHEREOF, I set my hand and seal at _____
_____
this _____ days of _____, _____.

_____
Notary Public

Seal

4. SITE VISIT AFFIDAVIT
GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST) ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

I (we) hereby certify that I (we) have visited, examined, and evaluated the site of Work of the above-mentioned project.

CONTRACTOR

Seal

Firm Name _____

By _____

Tittle _____

Signature _____

AFFIDAVIT NO._____

Sworn and subscribed to before me, the undersigned Notary Public, by (Name) _____ _____ who is of legal age, with marital status (Single, married, etc.) _____and a resident of _____, Puerto Rico, personally known to me and of the personal circumstances herein stated.

IN WITNESS WHEREOF, I set my hand and seal this_____ day of _____, _____, at (City) _____, Puerto Rico.

_____

NOTARY PUBLIC

1. NON-COLLUSIVE AFFIDAVIT
GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

I, _____, of legal age and resident of _____, Puerto Rico, being duly sworn depose as follows:

1. That I am a bidder for a contract offered in public competitive proposal by Puerto Rico Aqueduct and Sewer Authority for the execution of Project **GUILARTE WATER TREATMENT PLANT LT2 (FAAST), ADJUNTAS, PUERTO RICO, CIP NUMBER: 4-01-6012, BID NUMBER: 27-SP-026.**

2. That I have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive participation in connections with the here-in-before-mentioned contract.

AFFIDAVIT

CONTRACTOR

Firm Name _____

By _____

Tittle _____

Signature _____

_____

Sworn to and subscribed before me by

_____ of legal age, Contractor and resident of _____, Puerto Rico, personally known to me, in _____ Puerto Rico, on the _____day of _____ of 20_____.

_____

NOTARY PUBLIC

6. COST BREAKDOWN
GUILARTE WATER TREATMENT PLANT REHABILIATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

Prospective Bidders shall provide with the proposal their own Cost Breakdown Format including the indicated unit prices item and allowances, if any.

In accordance with Law 14 of 2004, "Ley para la Inversión en la Industria Puertorriqueña", bidders shall submit with their Cost Breakdown, when applicable, and in compliance with the Law:

1. Resolution from the "Junta para la Inversión en la Industria Puertorriqueña" indicating the investment parameter approved (percentage) and the product to which it applies.

2. Quotation from supplier who the Resolution in Item 1 is awarded to.

PRASA shall adjust the cost breakdown accordingly for bid evaluation purposes. Bidders shall not include the percent discount in their proposals. Bidders shall honor the quotation presented with this bid during construction

7. DECLARACIÓN JURADA LEY 2 - 2018

Yo _____, mayor de edad,_____, vecino__ de _____,
(Nombre completo) (Estado Civil) (Donde vive)
_____ de_____, bajo el más solemne Juramento
(Posición que Ocupa) (Nombre de la Sociedad o Corporación)

DECLARO:

I _____, of legal age, _____and resident of _____,
(Full name) (Civil Status) (Where you live)
as _____ of _____, under the most solemn Oath
(Position) (Name of the Company or Corporation)

DECLARE:

1. Que mi nombre y demás circunstancias personales son las anteriormente expresadas.

That my name and other personal circumstances are those previously expressed.

2. Que la compañía que represento interesa formalizar un Contrato con la Autoridad de Acueductos y Alcantarillados de Puerto Rico.

That the company that I represent is interested in formalizing a Contract with the Puerto Rico Aqueduct and Sewer Authority.

3. Que presto esta declaración jurada con el propósito de cumplir con las disposiciones de la Ley Núm. 2-2018, que le impone la obligación a toda persona natural o jurídica que desee participar de la adjudicación de una subasta o del otorgamiento de un contrato con cualquier agencia o instrumentalidad, corporación pública o municipio, de someter una declaración jurada donde informe si he sido convicto o declarado culpable o la persona jurídica que represento ha sido convicta o se ha declarado culpable de los delitos contenidos en el Artículo 6.8 de la Ley 8-2017, según enmendada.

That I am executing this sworn statement with the purpose of complying with the provisions of Act No. 2-2018, which imposes the obligation on any natural or legal entity wishing to participate in the award of a bid or the granting of a contract. with any agency or instrumentality, public corporation or municipality, to submit a sworn statement stating whether I have been convicted or pled guilty, or the legal entity that I represent has been convicted or has pled guilty of the crimes contained in Article 6.8 of Act 8-2017, as amended.

4. Por tal razón, certifico que de conformidad con lo dispuesto en la Ley Núm. 2-2018, ni el suscribiente, ni la persona jurídica que represento o cualquier presidente, vicepresidente, director, director ejecutivo, socio o miembro de una junta de oficiales o junta de directores, o personas que desempeñen funciones equivalentes para la persona jurídica no ha sido convicto o declarado culpable de ninguno de los delitos enumerados en la Sección 6.8 de la Ley 8-2017, según enmendada, conocida como "Ley para la Administración y Transformación de los Recursos Humanos en el Gobierno de Puerto Rico."

For this reason, I certify that pursuant to the provisions of Act No. 2-2018, neither the undersigned, nor the legal entity that I represent or any president, vice president, director, executive director, member or member of a board of officers or board of directors, or persons performing equivalent functions for the legal entity, have not been convicted or pled guilty of any of the crimes enumerated in Section 6.8 of Act 8-2017, as amended, known as the "Law for the Administration and Transformation of Human Resources in the Government of Puerto Rico."

5. Certifico además que ni el suscribiente, ni la persona jurídica que represento o cualquier presidente, vicepresidente, director, director ejecutivo, socio o miembro de una junta de oficiales o junta de directores, o personas que desempeñen funciones equivalentes para la persona jurídica que represento ha sido convicto o declarado culpable de ninguno de los delitos a los que se refiere en la Ley 2-2018, según enmendada, conocida como el "Código Anticorrupción para el Nuevo Puerto Rico".

I further certify that neither the undersigned, nor the legal entity that I represent or any president, vice president, director, executive director, partner or member of a board of officers or board of directors, or persons who perform equivalent functions for the legal entity has been convicted or convicted of any of the crimes referred to in Act 2-2018, as amended, known as the "Anti-Corruption Code for the New Puerto Rico."

6. Para fines de la jurisdicción federal, de los estados o territorios de los Estados Unidos de América aplicará la prohibición contenida en la presente declaración jurada en casos de convicción por delitos cuyos elementos sean equivalentes a los referidos en los incisos 4 y 5 anteriores.

For purposes of federal jurisdiction, of the states or territories of the United States of America, the prohibition contained in this affidavit will apply in cases of conviction for crimes whose elements are equivalent to those referred to in the paragraphs 4 and 5 above.

7. Además, hago constar que en este momento no tengo conocimiento informado de que el suscribiente, la persona jurídica que represento o cualquier presidente, vicepresidente, director, director ejecutivo, socio o miembro de una junta de oficiales o junta de directores, o personas que desempeñen funciones equivalentes para la persona jurídica que represento, sea objeto de investigación, o procedimiento criminal alguno por hechos relacionados con los delitos referidos anteriormente. Me comprometo y obligo a informar de inmediato si alguna vez conociéramos que somos objeto de investigación o procedimiento criminal por hechos relacionados con dichos delitos.

In addition, it is noted that at this time I have no informed knowledge that the undersigned, the legal person or any president, vice president, director, executive director, partner, or member of a board of officers or board of directors, or persons who perform equivalent functions for the legal entity, are subject of any investigation, or criminal procedure in connection with the crimes referred to above. I agree to inform immediately if we become aware that we are objects of any investigation or criminal procedure in connection with such crimes.

8. Todo lo declarado es la verdad y nada más que la verdad.

Everything stated is the truth and nothing but the truth.

EN TESTIMONIO DE LO CUAL, otorgo esta declaración jurada para cumplir con las disposiciones de la legislación vigente y específicamente aquellas establecidas en virtud de la Ley Núm. Ley Núm. 2-2018, y para que en su consecuencia se cumplimente mi expediente para la contratación con la Autoridad de Acueductos y Alcantarillados Puerto Rico.

IN WITNESS WHEREOF*, I hereby execute this sworn statement to comply with the provisions of current legislation and specifically those established by virtue of Act No. 2-2018, and as a consequence to support the file for the contracting with the Puerto Rico Aqueduct and Sewer Authority.*

Por: _____

(Firma y Nombre del Declarante)
(Signature and Name of Declarant)

Afidávit Número_____
Affidavit Number _____

JURADO Y SUSCRITO ante mí por _____, de las circunstancias personales anteriormente mencionadas y a quien [identifico mediante licencia de conducir número_____/a quien conozco personalmente] [*seleccione la que aplique*], en San Juan, Puerto Rico, hoy__ de _____ de 20___.

SWORN AND SUBSCRIBED *before me by _____ of the aforesaid personal circumstances and whom [I identify with a driver's license number_____/personally known to me][select as applicable], in San Juan, Puerto Rico this ____ day of _____ of 20____.*

SELLO NOTARIO
NOTARY SEAL

_____

NOTARIO PÚBLICO

8. DECLARACIÓN JURADA LEY 42 - 2018

LEY 42 DE 21 DE ENERO DE 2018, LEY DE PREFERENCIA PARA CONTRATISTAS Y PROVEEDORES LOCALES DE CONSTRUCCIÓN

COMPARECE_____, un (a) _____
(nombre del negocio o compañía) (corporación, sociedad o negocio individuo)

organizada y existente bajo las leyes de _____, representada(o)
(estado, territorio o país)

en este acto por _____, mayor de edad, _____,
(nombre en letra de molde) (estado civil)

y vecino de _____, y **bajo juramento** declaro lo siguiente:
(domicilio) (País)

1. Que soy la persona de las circunstancias antes expresadas.

2. Que ocupo el cargo de _____ en la compañía o negocio antes mencionado y estoy debidamente facultado(a) para suscribir la presente Declaración Jurada.

3. Que la compañía o negocio al cual represento interesa someter una oferta para la Subasta Número _____ o Solicitud de Propuestas de la Autoridad de Acueductos y Alcantarillados ("Autoridad").

4. Que certifico que la compañía o negocio al cual represento cumple con todos los requisitos y parámetros para ser considerado un Negocio Local o Proveedor Local de servicios de construcción, según definido en los Art. 2(B) y (C) de la Ley 42 de 21 de enero de 2018, "Ley de Preferencia para Contratistas y Proveedores Locales de Construcción" y que el volumen de ventas e ingresos que genera este negocio o compañía proviene de su Operación Sustancial en Puerto Rico, según definido en el Art. 2(D) de la Ley 42-2018, que su principal centro de negocios es en Puerto Rico, por más de seis (6) años de establecida en Puerto Rico, específicamente desde el _____ de _____.

5. Que reconozco que en la eventualidad que la Autoridad determine que este negocio o compañía no cumple con los requisitos para reclamar el por ciento de preferencia que establece la Ley 42-2018, antes de la adjudicación de la subasta o de la firma del contrato, la Autoridad podría excluirle de la misma. Si dicho hallazgo ocurriera luego de otorgarse el contrato, la Autoridad podría rescindir el mismo de inmediato.

6. Que reconozco que en caso de que se impugne la legalidad de la subasta o cualquier otro procedimiento adjudicativo, tal impugnación no tendrá el efecto de suspender la validez y exigibilidad de las obligaciones contraídas en la subasta o en otros procedimientos adjudicativos, salvo que un Tribunal competente emita una orden fundamentada para paralizar los procesos.

7. Que suscribo esta declaración para que tenga todos los efectos legales pertinentes.
Y PARA QUE ASÍ CONSTE, juro y suscribo la presente declaración en _____,

Puerto Rico, a _____ de _____ de _____.

_____

Firma representante autorizado

Testimonio Núm.: _____

Jurado y suscrito ante mí por _____, en representación de _____, de las circunstancias personales antes expresadas y a quien do fe de identificar mediante _____.

En _____, Puerto Rico, a _____ de _____ de 20____.

_____

NOTARIO PÚBLICO

9. CERTIFICACIÓN SOBRE EL USO DE CEMENTO HECHO EN PUERTO RICO (OE 2018-033)

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

Yo, _____, _____ (Posición) de _____ (Compañía), en cumplimiento con la OE-2018-033, certifico que el cemento a utilizarse en el proyecto de referencia fue producido en Puerto Rico conforme a las disposiciones de la Ley Núm. 109 de 12 de julio de 1985; incluyendo el cemento utilizado por los subcontratistas del proyecto de construcción. Reconozco que esto será requisito para la concesión del contrato.

En _____, Puerto Rico, a _____ de _____ de _____.

_____
FIRMA

10. FEMA DECLARATION CLAUSE

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

Lobbying Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure."

The Contractor,_____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

_____
Signature of Contractor's Authorized Official

_____
Name and Title of Contractor's Authorized Official

_____
Date"

11. FEMA CONFLICT OF INTEREST AND UNFAIR COMPETITIVE ADVANTAGE CERTIFICATION
GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

Identify any conflicts of interest or unfair competitive advantages (collectively called Conflict Situations) by completing this Certification under penalty of false statement by checking either Box No. 1 (Individuals) or Box No. 2 (Firms) below, and Box No. 3 as necessary. If there is a known or potential Conflict Situation, Box No. 3 should be checked, and the required supplementary information provided.

1. Individuals

I certify that I do not have a potential or known Conflict Situations as specified in the [Request for Proposal or Qualifications] documents, or under Puerto Rico Law and Federal Regulations, for the subject project, except as disclosed in Box No. 3 and the attachments to this Certification.

2. Firms

My signature certifies that I am authorized to sign as a Representative for the Firm and to the best of my knowledge, information and belief, and after thorough review of the firm's books and records and after reasonable inquiry with knowledgeable persons within the firm, this firm:

a) Has no business or personal relationships with any other companies or persons that could be considered as a conflict of interest or potential conflict of interest to **PRASA**,

b) Has no principals, officers, agents, employees, or representatives of this firm that have any business or personal relationships with any other companies or persons that could be considered as a conflict of interest or a potential conflict of interest to **PRASA**,

c) Has no unfair competitive advantage resulting from work that this firm, its current staff, any key personnel or subconsultants have done to date, pertaining to any and all work or services to be performed as a result of this request and any resulting contract with **PRASA**, except as disclosed in Box No. 3 and the attachments to this Certification.

3. Disclosure

☐ I am notifying Central Office of Recovery, Reconstruction, and Resiliency (COR3) of the existence of one or more potential or actual Conflict Situation(s). I have attached to this Certification a document (limited to three pages) with (a) all relevant facts and (b) identified proposed actions to be taken to avoid, neutralize, or mitigate such Conflict Situation (e.g. communications barriers, restraint or restriction upon future contracting activities, or other precaution).

I understand that if at any time I learn of a previously unknown potential or actual conflict of interest or perceived unfair competitive advantage, I will submit a new Certification to COR3 and the appropriate **PRASA** contact person for that phase of the project, updating my previous statements and certifications.

Signature: _____ Date: _____
Name (type/print):_____ Title: _____
Legal Name of Firm: _____
Address: _____
Telephone: (_____) _____

ALLOWANCES FORM

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST)
ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

ALLOWANCE I – Compensation for tree cutting. This allowance covers the mitigation of tree removal through monetary compensation to the DRNA, subject to prior approval by the Engineer and PRASA, shall be included in the Contract Sum for **TEN THOUSAND DOLLARS ($10,000)**.

ALLOWANCE II – An Allowances for handling, disposal, and compliance with all applicable regulatory requirements associated with materials contained lead-based paint, shall be included in the Contract Sum for **TEN THOUSAND DOLLARS ($10,000)**.This amount includes labor, equipment required to deliver work, unloading and handling at site, materials, subcontractors, and all applicable patents, taxes, workmen compensation insurance, and contractor's overhead and profit. Insurance and bonds shall be included as part of the Lump Sum contract price as defined in Article 10.3.6. Estimates for this portion of the work shall be presented in Labor, Equipment, Material, Subcontractor, and Others (LEMSO) format for Owner's representative evaluation and approval.

ALLOWANCE III - An allowance for Unforeseen Conditions shall be included in the Contract Sum for **FOUR HUNDRED NINETY-ONE THOUSAND, FOUR HUNDRED EIGHTY-FOUR DOLLARS AND SIX-EIGHT CENTS ($508,949.85).** This allowance covers possible differences or unforeseen subsurface or physical conditions that were not reasonably anticipated or documented at the time of bidding. Such conditions may include, but are not limited to, hidden structural issues, concealed utilities, subsurface obstructions, hazardous materials requiring removal or remediation, or code compliance requirements not evident at the time of bid, among others. The allowance amount shall include all costs associated with the performance of such work, including labor, equipment required to deliver and install the work, unloading and handling at the site, materials, subcontractors, and all applicable patents, taxes, workers' compensation insurance, and contractor's overhead and profit. Insurance and bonds shall be included as part of the Lump Sum Contract Price as defined in Article 10.3.6. Any unused balance of the allowance shall be deducted from the final Contract Sum by Change Order at the time of project closeout. Estimates for expenditures under this allowance shall be submitted in the Labor, Equipment, Material, Subcontractor, and Others (LEMSO) format for evaluation and require approval by the Owner's representative.

A.5 ALTERNATIVE FORM

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAAST) ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

No alternatives have been contemplated for this project.

A.6 SUPPLEMENTARY GENERAL CONDITIONS

GUILARTE WATER TREATMENT PLANT
REHABILITATION (FAAST) ADJUNTAS, PUERTO RICO
CIP: 4-01-6012
BID NUMBER: 27-SP-026

ARTICLE 1. – SUPPLEMENTARY GENERAL CONDITIONS

The following articles reflect the requirements of the above-mentioned project. *(Note: Words/sentences in Italic represent the new wording to the article.)*

1. Article 1.1.1.14 – as presented in the General Conditions.
2. Article 1.1.1.50 – as presented in Article 6.8.
3. Article 1.1.1.67 – as presented in the General Conditions.
4. Article 1.3.1.1 – as presented in the General Conditions.
5. Article 1.3.4 – as presented in the General Conditions.
6. Article 2.1.4– as presented in the General Conditions.
7. Article 2.4.5.1 – as presented in the General Conditions.
8. Article 3.2.1.1 – as presented in Volume B, B.4, Article 1 and Article 2.
9. Article 3.2.3.1 – as presented in Volume B, B.4, Article 1 and Article 2.
10. Article 3.3.1 – as presented in Volume B, B.4, Article 1 and Article 2.
11. Article 3.5.1.1 – as presented in Volume B, B.4, Article 1 and Article 2.
12. Article 3.5.2 – as presented in Volume B, B.4, Article 1 and Article 2.
13. Article 3.5.2.3 – as presented in Volume B, B.4, Article 1 and Article 2.
14. Article 3.6.2 – as presented in Volume B, B.4, Article 1 and Article 2.
15. Article 3.7.1 – as presented in Volume B, B.4, Article 1 and Article 2.
16. Article 3.7.1.3 – as presented in Volume B, B.4, Article 1 and Article 2.
17. Article 3.7.1.8 – as presented in Volume B, B.4, Article 1 and Article 2.
18. Article 3.7.1.9 – as presented in Volume B, B.4, Article 1 and Article 2.
19. Article 3.7.2.1 – as presented in Volume B, B.4, Article 1 and Article 2.

20. Article 3.7.3 – as presented in Volume B, B.4, Article 1 and Article 2.

21. Article 3.9.1 – as presented in Volume B, B.4, Article 1 and Article 2.

22. Article 4.1.1 shall read as follows:

4.1.1 Owner shall furnish the Site, *as indicated herein after.*

4. The land and rights of way furnished by the owner for the Work are as follows: (Latest Revision of Drawings)

SITE	***DESCRIPTION***
Par el	Guilarte WTP 1,688.3208 SQ meters

Or

ROW#	***LOCATION***	***DESCRIPTION***

5. The selected Contractor shall provide, at his own expense, for the use of any additional land or rights of way required for him for the construction of the Work and shall police such lands in a manner satisfactory to PRASA.

23. Article 4.2.1 – list, if applicable.

24. Article 4.5.1 – list, if applicable.

25. Article 4.7.3 – as presented in the General Conditions.

26. Article 5.1.2 – as presented in the General Conditions.

27. Article 5.1.4 – as presented in the General Conditions.

28. Article 5.2.1.1 – as presented in the General Conditions.

29. Article 5.8.1 - as presented in the General Conditions.

30. Article 6.1.2 – as presented in the General Conditions.

31. Article 6.3.1 – as presented in the General Conditions.

32. Article 6.4.1.1 – as presented in the General Conditions.

33. Article 6.4.4.1 – as presented in the General Conditions.

34. Article 6.4.4.5.1 – as presented in the General Conditions.

35. Article 6.8.1 – Delete in its entirety and replace by the following article:

6.8 Permits

6.8.1. Contractor shall deliver to PRASA, prior to starting with the Construction phase and at his own expense, all necessary permits, licenses, and endorsements from the proper authorities including U.S.A. Federal, Commonwealth of Puerto Rico, Municipal and private companies with jurisdiction over the Work. Contractor shall give all notices required by Laws and Regulations, shall pay all fees and charges incidental to the due and lawful prosecution of the Work, and shall comply with all U.S.A. and Puerto Rico laws and regulations, and municipal ordinances relating thereto. Copies of all said stamps, permits, licenses, endorsements, notices, receipts, and authorizations shall be filed with PRASA, through its approved representative.

6.8.2. During the execution of the Project, Contractor, at his own expense shall obtain, implement, maintain, and renew all the necessary permits, approvals, endorsements and authorizations of any kind required from the Commonwealth of Puerto Rico, the United States Governmental, Municipal Authorities, or other private or government agencies with jurisdiction over the Project, including but not limiting to the following:

1. Consolidated General Permit that includes: Erosion and Sediment Control Plan (Plan-CES), Air Emission Control Dust (PFE) permit for construction activities, and Non-Hazardous Solid Waste Generating Activity (DS-3) permit from the Puerto Rico Environmental Quality Board (EQB). Contractor shall prepare the plan for the control of erosion and sedimentation applicable to this project, along with the required engineering certification in accordance with applicable Laws and Regulations. Copy of the certified plan approved by the EQB shall be submitted to Engineer.

2. Incidental Earth Movement Permit from the Department of Natural and Environmental Resources.

3. If there is to result any discharge of runoff waters to any body of water resulting from any Construction activity, the Contractor shall submit to the US EPA a Notice of

Intent of the National Pollutant Discharge Elimination Systems (NPDES) permit in accordance with Federal Code Regulation No. 40, Section 122.26 (b) (14) (x). Contractor shall comply with all applicable requirements.

If required by Laws and Regulations Contractor and Subcontractors shall prepare and implement a Pollution Prevention Plan (PPP). A copy of this plan shall be submitted to PRASA. This plan cover discharges of storm water runoff from Construction sites which disturb one (1) or more acres of land. After the storm water Pollution Prevention Plan is prepared and the necessary controls are installed, the Contractor and Subcontractor will be responsible for inspecting and maintaining them until Final Acceptance. The Contractor should have a professional engineer who will be responsible for periodically inspecting and certifying that the Pollution Prevention Plan has been properly installed and implemented.

4. In the event that any emergency energy generator is to be used, an emission source construction permit and operation permit (Permiso de Fuente de Emisión, PFE) shall be obtained from the EQB for the installation and operation of the same. A Spill Prevention Control and Counter Measures or Emergency Plan shall be prepared and submitted to PRASA and EQB.

5. If any hydrocarbon storage tank is to be installed the Water Quality Area of EQB shall be consulted. Contractor shall comply with applicable regulations and obtain required permits.

6. Other environmental clearances and approvals. Contractor shall consult the regulatory agencies, comply with applicable regulations and obtain required permits.

7. Permits for the relocation of utilities from each utility company affected.

8. Notification, coordination and complying with all regulations for excavation and demolition work which are required by the Center for the Coordination of Excavations and Demolitions (Centro de Coordinación de Excavaciones y Demoliciones, CCED) of the Public Service Commission.

6.8.3 Contractor shall be the only entity responsible, at his own expense, in performing the Works necessary to comply with all permits, endorsements, approvals or renovations and shall pay all penalties imposed on Contractor for not complying with Laws and Regulations, and charges incidental to the due and lawful prosecution of the Work. Contractor shall provide at his own expense all required notices, drawings, specifications, engineering and other professional certifications, and others, required by private, Municipal, Puerto Rico and Federal agencies to obtain required permits, approvals, renewals (if applicable) and others.

6.8.4 In the event that any Work to be performed by Contractor under the above mentioned permits, approvals, endorsements and authorizations is found to be unsatisfactory and is not approved by the aforementioned governmental authorities, and Contractor refuses to correct said deficiencies without due cause, then PRASA or said governmental agencies may proceed with the corrective work, and the cost thereof shall be charged to Contractor and shall be withheld by PRASA from any money due to Contractor under the subject construction contract.

36. Article 6.11.5.2 – as presented in the General Conditions.

37. Article 6.11.5.2.2 – as presented in the General Conditions.

38. Article 6.16.4- as presented in the General Conditions.

39. Article 6.17.1.1 – as presented in the General Conditions.

40. Article 6.18.5.1.2 – as presented in the General Conditions.

41. Article 6.18.5.3.1.2 shall read as follows:

    6.18.5.3.1.2 Unless otherwise provided in the Contract Documents, direct payment will be made for development, preparation, erosion control, hauling and restoration of material sources or related work areas and sites, *as long as such payment is part of the lump sum quoted for the Work.*

42. Article 6.18.5.7.2 – as presented in the General Conditions.

43. Article 6.18.5.7.6 – as presented in the General Conditions.

44. Article 6.18.5.7.8 – as presented in the General Conditions.

45. Article 6.18.5.7.11 – as presented in the General Conditions.

46. Article 6.18.7.1 – as presented in the General Conditions.

47. Article 6.19.3 shall read as follows:

    6.19.3 The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be free from faults and defects and in conformance with the Contract Documents for the time periods specified in Article 3, or for one (1) year, whichever is longer. *The guarantee starts after project Final Acceptance, as indicated in the Certificate of Final Acceptance. The guarantee period indicated in technical specifications will take effect after project Final Acceptance (this condition prevails over those mention on technical specifications). If at any time within guarantee period after project Final Acceptance it is found that any piece of equipment or item of Work does not comply with this guarantee, Contractor shall renew or replace it, or do whatever is necessary to remedy the fault. He shall, during the same period, repair promptly all breaks, failures or defects that develop in his Work as a result of faulty material or workmanship furnished by him.*

48. Article 6.21.1.1 – as presented in the General Conditions.

49. Article 6.21.1.1.4 – as presented in the General Conditions.

50. Article 8.1.2.1- as presented in the General Conditions.

51. Article 9.3.1.6- shall read as follows:

    9.3.1.6 Additional time will be allowed due to severe weather conditions, which render the performance of work impossible or-if, it alters the programmed Schedule of the Project.

52. Article 9.5.1 – as presented in the General Conditions.

53. Article 9.6.1 shall not apply for this project.

54. Article 10.3.1 – as presented in the General Conditions.

55. Article 10.3.6 – as presented in the General Conditions.

56. Article 12.3.1.1 – as presented in the General Conditions.

57. Article 12.3.1.3 shall read as follows:

12.3.1.3The sampling of materials for testing will be performed by Contractor personnel.

58. Article 12.3.1.3.2– as presented in the General Conditions.

59. Article 12.3.3 shall read as follows:

12.3.3 Contractor shall employ and pay for the services of an independent testing laboratory(ies) to perform all inspections, tests, or approvals required by the Contract Documents except:

60. Article 12.3.3.1.1– as presented in the General Conditions.

61. Article 13.2.1.1 – as presented in the General Conditions.

62. Article 13.2.1.4.7 – as presented in the General Conditions.

63. Article 13.2.2.1.1 – as presented in the General Conditions.

64. Article 13.2.4.1 shall read as follows:

13.2.4.1. Sixty (60) days after Owner's approval of the Application for Payment, with Owner's Representative's recommendation, the amount recommended will (subject to the provisions of paragraph 13.2.4) become due, and when due, shall be paid by Owner to Contractor.

65. Article 13.7.3.1 shall read as follows:

13.7.3.1. Sixty (60) days after Owner's approval of the Application for Final Payment, with accompanying documentation, the amount recommended by Owner's Representative will become due, and when due, shall be paid by Owner to Contractor.

66. Article 14.5.2– as presented in the General Conditions.

67. Article 17.2.3 – as presented in the General Conditions.

68. Article 17.3.1 – as presented in the General Conditions.

ARTICLE 2. SPECIAL CONDITIONS

The following articles reflect the requirements of the above-mentioned project. *(Note: Words/sentences in Italic represent the new wording to the article.)*

1. Article 1.1.1.42 – as presented in the General Conditions.

2. Article 2.1.4– as presented in the General Conditions.

3. Article 2.2.1 – see Agreement Form.

4. Article 2.3.3.1 shall read as follows:

   2.3.3.1. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents*) and unless such an interpretation of the provisions of the Contract Documents would result in violation of the intention of such standard, specification, manual, code or instruction to protect life and property, and unless such standard, specification, manual, code or instruction are of common knowledge in the industry*; or

5. Article 3.3.2.1 – as presented in Volume B, B.4, Article 1 and Article 2.

6. Article 3.3.2.2 – as presented in Volume B, B.4, Article 1 and Article 2.

7. Article 4.2.1 – as presented in Volume A.

8. Article 4.2.2 – as presented in the General Conditions.

9. Article 4.2.3 – as presented in the General Conditions.

10. Article 4.7.1 – no Hazardous Environmental Condition is identified at the site.

11. Article 5.2.3 as presented in the General Conditions.

12. Article 6.2.2 – as presented in the General Conditions.

13. Article 6.3.2.3. – as presented in the General Conditions.

14. Article 6.7.2 – as presented in the General Conditions.

15. Article 6.10.1.2- Contractor shall pay municipal construction taxes at the rates prevailing at the time of the bid.

16. Article 6.11.5.2 – as presented in the General Conditions.

17. Article 6.18.5.7.1 – as presented in the General Conditions.

18. Article 6.18.5.7.3 – as presented in the General Conditions.

19. Article 6.18.5.7.4 – as presented in the General Conditions.

20. Article 6.18.5.7.5 – as presented in the General Conditions.

21. Article 6.18.5.7.6 – as presented in the General Conditions.

22. Article 6.18.5.7.8 – as presented in the General Conditions.

23. Article 6.18.5.7.11 – as presented in the General Conditions.

24. Article 6.18.7.2 – as presented in the General Conditions.

ARTICLE 3.– FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) CLAUSES AND OTHER REQUIREMENTS

A. **Conflicts of Interest.** No employee, officer, or agent of **PRASA** or the Government shall participate in the selection, or in the award or administration of a contract, supported by Federal funds, if a conflict of interest, real or apparent, would be involved.

B. **Interest by Members of Local Authority and Governing Body**: Since **PRASA** is part of the Government of Puerto Rico, or a local authority, no member of the local government or employee, officer or public official who exercises any functions or responsibilities with respect to the project shall, during his tenure, and for one year thereafter, have any interest, direct, or indirect, in this Contract or the proceeds thereof, unless the corresponding waiver from the Office of Governmental Ethics has been obtained.

C. **Covenant against Contingent Fees**: The Contractor warrants that there is no person nor employee that will receive upon the Execution of this Contract a commission, percentage, brokerage, or contingent fee. Breach of this warrantee shall give **PRASA** the right to terminate this Contract or, at its discretion, to deduct from the Contractor's fee the amount of such commission, brokerage, or contingent fee.

D. **Personal Conflicts of Interest:** The Contractor will establish safeguards to prohibit employees from using their positions for a purpose that is, or gives the appearance of, a conflict of interest.

E. **Organizational Conflicts of Interest ("OCI"):**

1. An organizational conflict of interest arises where a person, because of other activities or relationships with other persons, is unable or potentially unable to render impartial assistance of advice to **PRASA**, the person's objectivity in performing the contract work is or might be otherwise impaired, or when a person has an unfair competitive advantage.
2. The Contractor shall take precautions to ensure that no OCI arise in the performance of this Contract.
3. In the event that the Contractor believes that it or any of its potential Subcontractors may have an OCI it shall notify **PRASA**, in writing, within five (5) work days after it becomes aware of the potential or actual OCI. The written notification shall identify the nature and circumstances of the perceived conflict and propose appropriate measures to eliminate or mitigate the OCI. **PRASA** will review the circumstances and the proposed mitigation plan and notify the Contractor stating whether: (i) no mitigation is required; (ii) the conflict cannot be mitigated; or (3) the conflict can be mitigated and **PRASA** accepts the proposed measures, or recommends other and/or additional measures.

4. The failure of the Contractor to identify such perceived conflicts may result in the contract award being rescinded or the Contract being terminated.

F. **Conflict of Interest/Unfair Advantage:** All existing consultants, contractors, and subcontractors of Central Office of Recovery, Reconstruction, and Resiliency (COR3) who have participated or have had contact to non-public information related to the services or scope of work contained herein that would place them in an unfair advantage or conflict are precluded from responding to this procurement. COR3 considers that it is important to avoid any perceived and/or real unfair advantages or conflicts. COR3 will evaluate for Proposer, and the Proposer's key personnel, its subcontractors and any other individuals associated with the Proposal whether they have a Conflict Situation. To that end, the Proposer must complete and submit a Conflict of Interest and Unfair Competitive Advantage Certification (**Exhibit A**) for itself, and a separate set of forms for each of its key personnel. Any other individuals or subcontractors participating in the Proposer's team, who are aware of an existing or potential Conflict Situation, shall make a disclosure on the Certification Form and forward it to **PRASA** for submittal to COR3. Failure of the Proposer, Key Personnel, or those with known Conflict Situations to submit the Certification Form(s) may result in the disqualification of the Proposer. Whenever a Proposer, its key personnel, any subcontractor or any individual associated with a Proposer is found to have a Conflict Situation, it shall be disclosed on the Certification Form and the attachments. COR3 will review the Proposer's suggested actions to be taken to avoid, neutralize, or mitigate such Conflict Situation, and if found acceptable, the matter will be consider resolved and the Proposer will be permitted to continue in the procurement process with the suggested actions. If, COR3 does not find the Proposer's suggested actions acceptable or sufficient to avoid, neutralize or mitigate a Conflict Situation, then COR3 will communicate to the Proposer that an unresolved Conflict Situation may exist. The Proposer may offer additional measures to resolve the matter. Proposers unable to resolve a Conflict Situation finding will not be permitted to continue in the procurement process. It is the responsibility of each proposer to police itself related to Conflict Situations. The Proposer agrees that if, at any time during the procurement process, or even after award of the contract, an individual or organizational Conflict Situation develops or is discovered, the Proposer shall make an immediate and full disclosure to **PRASA** and COR3 using the prescribed form. Such disclosure shall include a description of the action that the Proposer has taken or proposes to take to avoid or mitigate the conflict or potential conflict.

G. PROVISIONS APPLICABLE FOR CONTRACTS OVER $100,000.00

1. **Contract Work Hours and Safety Standards Act**
   a. Where applicable,[1] all contracts awarded by the NFE of more than $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with statutory requirements on work hours and safety standards.[2] Under 40 U.S.C. § 3702, each contractor must base wages for every mechanic and laborer on a standard 40-hour work week. Work over 40 hours is allowed, so long as the worker is paid at least one and a half times the base pay rate for all hours worked over 40 hours in the work week. Additionally, for construction work, under 40 U.S.C. § 3704, work surroundings and conditions for laborers and mechanics must not be unsanitary or unsafe. Relevant definitions are at 40 U.S.C. § 3701 and 29 C.F.R. §5.2.

[1] *See* 40 U.S.C. §§ 3701-3708.
[2] 40 U.S.C. §§ 3702, 3704. The Contract Work Hours and Safety Standards Act is supplemented by Department of Labor regulations at 29 C.F.R. Part 5. *See* 2 C.F.R. Part 200, Appendix II, § E.

b. Applicability. This required contract provision applies to all procurements over $100,000 that involve the employment of mechanics, laborers, and construction work.[3] These requirements *do not* apply to the purchase of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.[4]

c. Additional Requirements If applicable per the standard described above, the non-federal entity must include the provisions at 29 C.F.R. § 5.5(b)(1)-(4), verbatim, into all applicable contracts, and all applicable contractors must include these provisions, in full, into any subcontracts.[5] In addition to the required language from 29 C.F.R. § 5.5(b)(1)-(4), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any other statutes cited in 29 C.F.R. § 5.1, the NFE must also insert a clause meeting the requirements of 29 C.F.R. § 5.5(c). Specific language is not required, but FEMA has provided suggested language below.

d. For the required contract provision, the language from 29 C.F.R. § 5.5(b)(1)-(4) is provided here for ease of reference:

"Compliance with the Contract Work Hours and Safety Standards Act.

(1) *Overtime requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) *Violation; liability for unpaid wages; liquidated damages.* In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) *Withholding for unpaid wages and liquidated damages.* **PRASA** and or the Commonwealth of Puerto Rico shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) *Subcontracts.* The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring

[3] 41 C.F.R. Part 60-1.3
[4] 2 C.F.R. Part 200, Appendix II, § E.
[5] 29 C.F.R. § 5.5(b)(1), (4).

the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section."

e. For contracts that are only subject to Contract Work Hours and Safety Standards Act and are not subject to the other statutes in 29 C.F.R. § 5.1 where an additional contract provision is required, FEMA suggests including the following language:

"Further Compliance with the Contract Work Hours and Safety Standards Act.

(1) The contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid.

(2) Records to be maintained under this provision shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Department of Homeland Security, the Federal Emergency Management Agency, and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job."

2. **Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended).**

a. NFEs who intend to award contracts of more than $100,000, and their contractors who intend to award subcontracts of more than $100,000, must include a contract provision prohibiting the use of federal appropriated funds to influence officers or employees of the federal government. Contractors that apply or bid for a contract for more than $100,000 must also file the required certification regarding lobbying.[6] Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an employee of a federal agency, a Member of Congress, an employee of Congress, or an employee of a Member of Congress in connection with receiving any federal contract, grant, or other award covered by 31 U.S.C. § 1352.The required certification form is found in FEMA regulations.[7]

Each tier must also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal funding. These disclosures are forwarded from tier to tier, all the way up to the federal awarding agency.[8]

b. Applicability. The Byrd Anti-Lobbying Amendment clause and certification are required for contracts of more than $100,000, and for subcontracts of more than $100,000.

c. The following provides a sample contract clause:

"Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended)

Contractors who apply or bid for an award of more than $100,000 shall file the required certification attached as Exhibit B to this Contract. Each tier certifies to the tier above

[6] *See* 2 C.F.R. Part 200, Appendix II, § I (citing 31 U.S.C. § 1352); 44 C.F.R. § 18.110.

[7] See 44 C.F.R. §§ 18.100, 18.110; 44 C.F.R. Part 18, Appendix A. FEMA's regulations at 44 C.F.R. Part 18 implement the requirements of 31 U.S.C. § 1352 and provides, in Appendix A to Part 18, a copy of the certification that is required to be completed by each entity as described in 31 U.S.C. § 1352.

[8] See 44 C.F.R. §§ 18.100, 18.110; 44 C.F.R. Part 18, Appendix B. The specific form for disclosures is referenced in Appendix B to 44 C.F.R. Part 18 and is SF-LLL, also available at https://www.grants.gov/web/grants/forms/sf-424-family.html

that it will not and has not used federally appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-federal funds that takes place in connection with obtaining any federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the federal awarding agency."

H. ADDITIONAL PROVISIONS APPLICABLE FOR CONTRACTS OVER $150,000.00

For all contracts over $150,000.00 these provisions will apply in addition to the provisions set forth above detailed.

1.Clean Air Act and the Federal Water Pollution Control Act.

a. For contracts over $150,000, contracts must contain a provision requiring contractors to comply with the Clean Air Act[9] and the Federal Water Pollution Control Act.[10] Violations must be reported to FEMA and the Regional Office of the Environmental Protection Agency (EPA).[11]

b. Applicability - This contract provision is required for all procurements over $150,000.

c. The following provides a contract clause: "Clean Air Act"

The contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §7401 *et seq.*

The contractor agrees to report each violation to the **PRASA** and understands and agrees that the **PRASA** will, in turn, report each violation as required to assure notification to the Commonwealth of Puerto Rico, Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

The contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with federal assistance provided by FEMA.

d. The following provides a contract clause: "Federal Water Pollution Control Act"

The contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 *et seq.*

The contractor agrees to report each violation to the **PRASA** and understands and agrees that the **PRASA** will, in turn, report each violation as required to assure notification to the Commonwealth of Puerto Rico, Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

The contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with federal assistance provided by FEMA."

2, **Bonding.** If the construction and facility improvement contracts and subcontracts is in excess of $150,000; The Contractor shall provide: (i) a performance bond for 100 percent of the contract price; and (ii) a payment bond for 100 percent of the contract price. Exceptions to these requirements may only be made with the express approval of the Federal awarding agency and/or the **PRASA**.

[9] 42 U.S.C. §§ 7401-7671q. This also includes all applicable standards, orders, or regulations issued pursuant to the Clean Air Act.
[10] 33 U.S.C. §§ 1251-1387, as amended.
[11] 2 C.F.R. Part 200, Appendix II, § G.

I. ADDITIONAL PROVISIONS APPLICABLE TO ALL CONTRACTS REGARDLESS OF THE CONTRACT AMOUNT.

1. **FEMA Disaster Assistance Survivor/Registrant Data**. If the Contractor has access to Disaster Assistance Survivor/Registrant data, or any other personally identifiable information, the Contractor shall comply with the provisions of the Terms and Conditions for Sharing FEMA Disaster Assistance Survivor/Registrant Data with State Governments set forth in in the FEMA-Government Contract for FEMA-4336-DR-PR and FEMA-4339-DR-PR.

2. **Costs.** All costs incurred by the Contractor in performance of this Contract must be in accord with the cost principles of 2 C.F.R. pt. 200, Subpart E. **PRASA** shall not be required to make payments to the Contractor for costs which are found to be contrary to the cost principles 2 C.F.R. pt. 200, Subpart E.

3. **Financial Management System.** The Contractor's financial management system shall provide for the following:
   a. accurate, current and complete disclosure of the financial results of this Contract;
   b. effective internal control structure over all funds, property and other assets. Sufficient to allow. the Contractor to adequately safeguard all such assets and shall ensure that they are used solely for authorized purposes;
   c. accounting records supported by source documentation;

4. **Penalties, Fines, and Disallowed Costs.** In the event that any U.S. Federal agency or the Commonwealth of Puerto Rico disallows or demands repayment for costs incurred in the performance of this Contract due to an act or omission by the Contractor, the Contractor shall be solely responsible for such penalty, disallowed costs, or repayment demand, and shall reimburse **PRASA** in full within ten (10) days of receiving notice from **PRASA** of such penalty, disallowance, or repayment demand. Any monies paid by the Contractor pursuant to this provision shall not relieve the Contractor of liability to **PRASA** for damages sustained by **PRASA** by virtue of any other provision of this Contract.

5. **Debarment, Suspension, and Ineligibility.**
   a. NFEs contractors and subcontractors are subject to debarment and suspension regulations.[12] Applicable contracts and subcontracts must include a provision requiring compliance with debarment and suspension regulations.[13]
   b. Applicability. The debarment and suspension clause is required for all contracts and subcontracts for $25,000 or more, all contracts that require the consent of an official of a federal agency, and all contracts for federally required audit services.[14] NFEs, even for

[12] 2 C.F.R. Part 180 (implementing Executive Order 12549, Debarment and Suspension (1986) and Executive Order 12689, Debarment and Suspension (1989)); 2 C.F.R. Part 3000 (Department of Homeland Security regulations for Nonprocurement Debarment and Suspension, implementing 2 C.F.R. Part 180).
[13] 2 C.F.R. § 180; 2 C.F.R. Part 200, Appendix II, § H; 2 C.F.R. § 3000.332.
[14] 2 C.F.R. § 180.220(b); 2 C.F.R. § 3000.220.

procurements under $25,000, must also comply with the regulation requiring non- state entities to only award contracts to responsible vendors.[15]

c. Additional Requirements. The debarment and suspension regulations restrict awards, subawards, contracts, and subcontracts with parties that are debarred, suspended, or otherwise excluded, or declared ineligible for participation in federal assistance programs and activities.[16]

If applicable, a contract or subcontract must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM). SAM Exclusions is the list maintained by the General Services Administration that contains the names of parties that are debarred, suspended, or otherwise excluded, or declared ineligible under statutory or regulatory authority other than Executive Order 12549.[17] SAM Exclusions can be accessed at www.sam.gov.[18]

In general, an "excluded" party cannot receive a federal grant award or a contract considered to be a "covered transaction," which includes parties that receive federal funding indirectly such as subawards and subcontracts. The key to the exclusion is whether there is a covered transaction. A covered transaction is a nonprocurement transaction at either a primary or secondary tier.[19]

Specifically, a covered transaction includes the following contracts for goods or services under FEMA grant and cooperative agreement programs:

- The contract is at least $25,000.
- The contract requires the approval of FEMA, regardless of amount.
- The contract is for federally required audit services.
- It is a subcontract for $25,000 or more.[20]

d. The following provides a debarment and suspension clause. It also incorporates an optional method of verifying that contractors are not excluded or disqualified[21]:

"Suspension and Debarment

This contract is a covered transaction for purposes of 2 C.F.R. Part 180 and 2 C.F.R. Part 3000. As such, the contractor is required to verify that none of the contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

The contractor must comply with 2 C.F.R. Part 180, subpart C and 2C.F.R. Part 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

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[15] 2 C.F.R. § 200.318(h). For contracts and subcontracts under $25,000, a contract provision is only required if those contracts or subcontracts are for federally required audit services or require the consent of a federal agency. However, even where a contract provision is not required, non-state entities must still ensure they are only awarding contracts to responsible vendors.

[16] *See* 2 C.F.R. Part 200, Appendix II, § H; 2 C.F.R. § 200.213. *See also* 2 C.F.R. Parts 180, 3000.

[17] *See* 2 C.F.R. Part 200, Appendix II, § H.

[18] 2 C.F.R. § 180.530.

[19] The regulations at 2 C.F.R. Parts 180 and 3000 are titled "nonprocurement" because they do not apply to procurements by the federal government but rather to federal financial assistance. There are separate debarment and suspension regulations covering procurements by the federal government. However, although the term "covered transactions" under 2 C.F.R. Parts 180 and 3000 *does not* include contracts awarded by the federal government, it *does* include some contracts awarded by recipients and subrecipients.

[20] *See* 2 C.F.R. §§ 180.220, 3000.220.

[21] Per 2 C.F.R. § 180.300, non-federal entity about to enter into an applicable contract, or a contractor about to entire into an applicable subcontract, must verify that the contractor or subcontractor is not excluded or disqualified by doing one of three things: 1) check SAM Exclusions; 2) collect a certification from the contractor or subcontractor; or 3) add a clause or condition to the contract or subcontract. The additional suggested language in this sample clause is for purposes of this requirement.

This certification is a material representation of fact relied upon by **P*RASA***. If it is later determined that the contractor did not comply with 2 C.F.R. Part 180, subpart C and 2 C.F.R. Part 3000, subpart C, in addition to remedies available to Commonwealth of Puerto Rico and **PRASA**, the federal government may pursue available remedies, including but not limited to suspension and/or debarment.

The bidder or proposer agrees to comply with the requirements of 2 C.F.R. Part 180, subpart C and 2 C.F.R. Part 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions."

6. **Reporting Requirements.** The Contractor shall complete and submit all reports, in such form and according to such schedule, as may be required by **PRASA**.

7. **Review of laws.** The Contractor certifies that it will access online and read each law that is cited in the afore mentioned clauses and that in the event it cannot access the online version it will notify **PRASA** in order to obtain printed copy of the laws. Not requiring printed copy of the laws to **PRASA** will be evidence that the Contractor was able to find it online and read it as required.

8. **Notice of Federal Emergency Management Agency (FEMA) Reporting Requirements and Regulations:**
   a. As a condition of FEMA funding under major disaster declarations FEMA-4336-DR-PR and FEMA-4339-DR-PR, FEMA requires the Government of Puerto Rico and Client to provide various financial and performance reporting. The Contractor agrees to provide all information, documentation, and reports necessary to satisfy these reporting requirements. Failure by the Consultant to provide information necessary to satisfy these reporting requirements may result in loss of Federal funding for this Contract, and such failure shall be a material breach of this Contract.
   b. Applicable Regulations and Policy. Applicable regulations, FEMA policy, and other sources setting forth these reporting requirements include, but are not limited to: 2 C.F.R. § 327 (Financial Reporting); 2 C.F.R. § 200.328 (Monitoring and Reporting Program Performance); Performance and financial reporting requirements set forth in 2 C.F.R. Part 206.

9. **Access to Records.**
   a. The Contractor agrees to provide **PRASA**, the Commonwealth of Puerto Rico, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts, and transcriptions.
   b. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
   c. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to work sites pertaining to the work being completed under the Contract.
   d. In compliance with the Disaster Recovery Act of 2018, **PRASA** and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or

internal reviews by the FEMA Administrator or the Comptroller General of the United States.

10. **Records Retention.** The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case contractor agrees to maintain same until the Commonwealth of Puerto Rico, **PRASA**, the FEMA Administrator, the Comptroller General of the United States, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related to the litigation or settlement of claims.

11. **Program Fraud and False or Fraudulent Statements or Related Acts.** The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this Contract.

12. **Procurement of Recovered Materials.**
    a. An NFE that is a state agency or an agency of a political subdivision of a state, and the NFE's contractors must comply with Section 6002 of the Solid Waste Disposal Act.[22] Applicable NFEs must include a contract provision requiring compliance with this requirement.[23] This includes contracts awarded by a state agency or political subdivision of a state and its contractors for certain items, as designated by the EPA, with a purchase price greater than $10,000.[24] Indian Tribal Governments and nonprofit organizations are not required to comply with this provision. Additional requirements are listed below.
    b. Applicability. This required contract provision applies to all procurements over $10,000 made by a state agency or an agency of a political subdivision of a state and its contractors.
    c. Additional Requirements. The requirements include:
        - Procuring only items designated in EPA guidelines[25] that contain the highest practical percentage of recovered materials consistent with maintaining competition, where the purchase price of the item is greater than $10,000, or the value of the amount of items purchased in the preceding fiscal year was greater than $10,000;
        - Procuring solid waste management services in a way that maximizes energy and resource recovery; and
        - Establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.[26]
    d. The following provides a contract clause:
        "In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—
            - Competitively within a timeframe providing for compliance with the contract performance schedule;
            - Meeting contract performance requirements; or
            - At a reasonable price.

[22] Pub. L. No. 89-272 (1965) (codified as amended by the Resource Conservation and Recovery Act at 42 U.S.C. § 6962). 2 C.F.R. § 200.323.
[23] *See* 2 C.F.R. Part 200, Appendix II, § J (citing 2 C.F.R. § 200.323).
[24] *See* 2 C.F.R. Part 200, Appendix II, § J; 2 C.F.R. § 200.323; 40 C.F.R. Part 247.
[25] 40 C.F.R. Part 247.
[26] 42 U.S.C. § 6962; 2 C.F.R. § 200.323.

Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines webpage: https://www.epa.gov/smm/comprehensive- procurement-guideline-cpg-program.
The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

13. Energy Conservation. The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

14. Equal Opportunity.

a. Any contract that uses federal funds to pay for construction work is a "federally assisted construction contract" and must include the equal opportunity clause found in 2 C.F.R. Part 200, unless otherwise stated in 41 C.F.R. Part 60.[27]

b. Applicability. This contract provision is required for all procurements that meet the definition of a "federally assisted construction contract."

c. Key Definitions

- *Federally Assisted Construction Contract:* The regulation at 41 C.F.R. § 60-1.3 defines a *federally assisted construction contract* as "any agreement or modification thereof between any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Government or borrowed on the credit of the Government pursuant to any federal program involving a grant, contract, loan, insurance or guarantee, or undertaken pursuant to any federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved by the Government for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work."
- *Construction Work:* The regulation at 41 C.F.R. § 60-1.3 defines *construction work* as "the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction."
- *Contract:* The regulation at 41 C.F.R. § 60-1.3 defines *contract* as "any Government contract or subcontract or any federally assisted construction contract or subcontract."
- Additional definitions pertaining to this contract provision can be found at 41 C.F.R. § 60-1.3.

d. Required Language. The regulation at 41 C.F.R. § 60-1.4(b) requires, except as otherwise provided or exempted in 41 C.F.R. Part 60, the insertion of the following contract clause:
"During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be 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

[27] *See* 2 C.F.R. Part 200, Appendix II, § C.

training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by **PRASA**, the Commonwealth of Puerto Rico, and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance:

Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided,* that if the applicant so participating is a state or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings."

15. **Age Discrimination Act of 1975.** The Contractor shall comply with the provisions of the Age Discrimination Act of 1975. No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any program or activity receiving federal financial assistance.

16. **Americans with Disabilities Act.** The Contractor shall comply with the appropriate areas of the Americans with Disabilities Act of 1990 as enacted and from time to time amended, and any other applicable federal regulation. A signed, written certificate stating compliance with the Americans with Disabilities Act may be requested at any time during the term of this Contract.

17. **Title VI of the Civil Rights Act of 1964.** The Contractor shall comply with the provisions of Title VI of the Civil Rights Act of 1964. No person shall, on the grounds of race, color, or

national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

18. **Section 504 of the Rehabilitation Act of 1973, as Amended.** The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his disability, be denied the benefits, or be subjected to discrimination including discrimination in employment, any program or activity that receives the benefits from the federal financial assistance.

19. **Drug-Free Workplace.** The Contractor shall maintain a drug-free work environment in accordance with the Drug-Free Workplace Act of 1988 (41 U.S.C. § 8101 et seq.), and implementing regulations at 2 C.F.R Part 3001.

20. **Contracting with Small and Minority Firms, Women's Business Enterprises, and Labor Surplus Area Firms.**
    a. **Definitions.**
        i. Small Business. A business qualifies as a small business under the Small Business Administration criteria and size standards at 13 C.F.R. Part 121.
        ii. Women's Business Enterprise. A business that is: (a) at least 51 percent owned by one or more women; and (b) whose management and daily operations are controlled by one or more women.
        iii. Minority Business: A business that is (a) at least 51 percent owned by one or more minority group members; and (b) whose management and daily operations are controlled by one or more minority group members.
        iv. Labor Area Surplus Firm. A labor surplus area firm is a firm that, together with its first tier Subcontractors, will perform substantially in localities that have a "civilian average annual unemployment rate during the previous two calendar years of 20 percent or more above the average annual civil unemployment rate for all states" during that same period. 20 C.F.R. §§ 654.4-654.5.
    b. The Contractor must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible.
    c. Affirmative steps must include:
        i. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
        ii. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
        iii. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
        iv. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises;
        v. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
        vi. Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (i) through (v) of this section.

21. **Compliance with Federal Laws, Regulations and Executive Orders and Acknowledgement of Federal Funding.** This is an acknowledgement that FEMA financial assistance will be used

to fund all or a portion of the contract. The Contractor will comply will all applicable federal law, regulations, executive orders, FEMA policies, procedures, and directives.

22. **Provisions Required by Law Deemed Inserted.** Each and every provision required by law, regulation, executive order, policy, procedure, directive, Federal grant award or agreement, or cooperative agreement with any Federal agency to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein.

23. **Agreement to Execute Other Required Documents.** Contractor and all Sub Contractors, by entering into the Contract, understand and agree that funding for the Services is provided under Federal programs with specific contracting requirements. To the extent any such requirement is not otherwise set forth herein, Contractor agrees to execute such amendments or further agreements as may be necessary to ensure that PRASA received Federal funding for this Contract.

24. **U.S. Department of Homeland Security Seal, Logo, and Flags.** The Contractor shall not use the U.S. Department of Homeland Security seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre- approval. The contractor shall include this provision in any subcontracts

25. **No Obligation by the Federal Government.** The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.

26. **Remedies.**
    1. Standard. Contracts for more than the simplified acquisition threshold ($250,000) must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate. See 2 CFR. Part 200, Appendix II, Paragraph A.
    2. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

27. **Termination for Cause and Convenience.**
    a. Standard. All contracts in excess of $10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be affected and the basis for settlement. See 2 CFR. Part 200, Appendix II, Paragraph B.
    b. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

28. **Davis Bacon Act and Copeland Anti-Kickback Act.**
    a. This statute requires that contractors must pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in the Secretary of Labor's wage determination. Additionally, contractors are required to pay wages at least once per week.[28] Additional requirements are listed below, and relevant definitions are at 29 C.F.R.

[28] *See id.*; 40 U.S.C. §§ 3141-3144 and 3146-3148. The Davis-Bacon Act is supplemented by Department of Labor regulations at 29 C.F.R. Part 5 (Labor Standards Provisions Applicable to Contracts Covering federally Financed and Assisted Construction)

§ 5.2. NFEs should refer to the applicable NOFO or other program guidance or contact their applicable FEMA grant representative for additional information on how to implement this requirement.

b. Applicability. When required by the federal program legislation, prime construction contracts over $2,000 awarded by NFEs must include a provision for compliance with the Davis-Bacon Act.[29]

c. The Davis-Bacon Act only applies to the Emergency Management Performance Grant Program[30], Homeland Security Grant Program[31], Nonprofit Security Grant Program[32], Tribal Homeland Security Grant Program[33], Port Security Grant Program[34], Transit Security Grant Program[35], Intercity Passenger Rail Program[36], and Rehabilitation of High Hazard Potential Dams Program[37]. Unless otherwise stated in a program's authorizing statute, it *does not* apply to other FEMA grant and cooperative agreement programs, including the PA Program.

It applies to all Public Assistance Grants where the State and/or Subrecipient match is paid by Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) funding. It does not apply to other FEMA grant and cooperative agreement programs, including the Public Assistance Program.

d. Additional Requirements If applicable, in addition to the requirements mentioned in the beginning of this section, the NFE must do the following:

- Place a copy of the Department of Labor's current prevailing wage determination in each solicitation. Contracts or subcontracts must be awarded on the condition that the prevailing wage determination is accepted. The non-federal entity must report all suspected or reported violations to the federal awarding agency.[38]
- Include a provision for compliance with the Copeland "Anti-Kickback" Act for all contracts subject to the Davis-Bacon Act.[39] *See* Required Contract Provisions, Section 5. Copeland Anti-Kickback Act in this Guide for additional information. According to 29 C.F.R. § 5.5(a)(5), the regulatory requirements for the Copeland "Anti-Kickback" Act

[29] 2 C.F.R. Part 200, Appendix II, §D.
[30] *See* section 611(j)(9) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Pub. L. No. 93-288 (codified as amended at 42 U.S.C. § 5196(j)(9)).
[31] *See* section 2008(b)(4)(B)(ii) of the Homeland Security Act of 2002, Pub. L. No. 107-296 (codified as amended at 6 U.S.C. § 609(b)(4)(B)(ii)) (citing to section 611(j)(9) of the Stafford Act).
[32] *Id.* The Davis-Bacon Act only applies to the Nonprofit Security Grant Program (NSGP) where that program is funded as a carve-out of the appropriations for the Homeland Security Grant Program (HSGP). *See, e.g.,* Department of Homeland Security Appropriations Act, 2020, Pub. L. No. 116-93, Title III, Protection, Preparedness, Response, and Recovery, Federal Emergency Management Agency, Federal Assistance §§ 1-2. *Compare id. with* section 2009 of the Homeland Security Act of 2002 (6 U.S.C. § 609a) (authorizing NSPG as a stand-alone program where the Davis-Bacon Act does not apply, but as of the date of publication of this document, NSGP has not been funded as a standalone program).
[33] *See* section 2008(b)(4)(B)(ii) of the Homeland Security Act of 2002.
[34] *See* section 102 of the Maritime Transportation Security Act of 2002 (MTSA), Pub. L. No. 107-295 (codified as amended at 46 U.S.C. § 70107); 46 U.S.C. § 70107(b)(2). While the MTSA requires that PSGP construction activities are carried out consistent with section 611(j)(8) of the Stafford Act, a subsequent amendment to the Stafford Act by section 3 of Pub. L. No. 109-308 in 2006 redesignated the text of section 611(j)(8) to 611(j)(9). The cross-reference in the MTSA has not been updated.
[35] *See* section 1406 of the Implementing Recommendations of the 9/11 Commission Act of 2007 (9/11 Act), Pub. L. No. 110-53 (6 U.S.C. § 1135) (applying the requirements of section 49 U.S.C. § 5307); 49 U.S.C. § 5333 (applying the Davis-Bacon Act to grants provided under 49 U.S.C. § 5307).
[36] *See* section 1513(h) of the 9/11 Act (6 U.S.C. § 1163(h)) (citing to 49 U.S.C. § 24312, which requires compliance with the Davis-Bacon Act).
[37] *See* section 8A(d)(2)(E) of the National Dam Safety Program Act (codified as amended at 33 U.S.C. § 467f- 2(d)(2)(E)) (requiring compliance with 42 U.S.C. § 5196(j)(9), which is section 611(j)(9) of the Stafford Act that applies the Davis-Bacon Act).
[38] 2 C.F.R. Part 200, Appendix II, §D.
[39] 2 C.F.R. Part 200, Appendix II, §D.

are incorporated by reference into the required contract provision, so a separate contract provision is not necessary. However, the NFE may include a separate contract provision specific to the Copeland "Anti-Kickback" Act.

- Per Department of Labor's implementing regulations for the Davis-Bacon Act, the NFEs contractor and any subcontractors are required to insert, or incorporate by reference, the clauses contained at 29 C.F.R. § 5.5(a)(1)-(10)[40] into any subcontracts.
- Follow the other requirements of the Davis-Bacon Act and implementing regulations.[41]

e. Required Language[42] If applicable per the standard described above, the NFE must include the provisions at 29 C.F.R. § 5.5(a)(1)-(10) in full into all applicable contracts, and all applicable contractors must include these provisions in full in any subcontracts.[43]

f. Copeland "Anti-Kickback" Act The Copeland "Anti-Kickback" Act prohibits workers on construction contracts from giving up wages that they are owed.[44] Additional requirements are listed below, and relevant definitions are at 29 C.F.R. § 3.2. The applicable implementing regulations are intended to assist with enforcement of the Davis-Bacon Act's minimum wage provisions as well as various statutes with similar minimum wage provisions for federally assisted construction.[45]

i. Applicability For all prime construction contracts above $2,000, when the Davis-Bacon Act also applies[46], NFEs must include a provision in contracts and subcontracts for compliance with the Copeland "Anti- Kickback" Act.[47] This requirement applies to all prime construction contracts above $2,000 in situations where the Davis-Bacon Act also applies.[48] In situations where the Davis-Bacon Act does not apply, neither does the Copeland "Anti-Kickback" Act. As described in section A.4 regarding the Davis-Bacon Act, this provision only applies to certain FEMA grant and cooperative agreement programs. Please reference that list discussed above. Of note, it does not apply to the PA Program.

ii. Additional Requirements If applicable, the NFE must do the following:

- Include a provision for compliance with the Copeland "Anti-Kickback" Act.[49] According to the Davis-Bacon Act implementing regulations, the requirements for the Copeland "Anti-Kickback" Act are incorporated into the required contract provision for the Davis-Bacon Act by reference.[50] Therefore, a separate contract provision is not necessary. However, the NFE may include a separate contract provision specific to the Copeland "Anti-Kickback" Act with language suggested below.
- The Copeland "Anti-Kickback Act" prohibits each contractor or subcontractor from any form of persuading a person employed in construction, completion, or repair of public work to give up any part of their rightful compensation. The NFE must report all suspected or reported violations of the Copeland "Anti-Kickback

[40] 29 C.F.R. § 5.5(a)(6).

[41] 40 U.S.C. §§ 3141-3144, 3146-3148; 29 C.F.R. Part 5.
[42] 29 C.F.R. § 5.5(a).
[43] 29 C.F.R. § 5.5(a)(1), (6).
[44] *See id.*; 40 U.S.C. § 3145. The Copeland "Anti-Kickback" Act is supplemented by Department of Labor regulations at 29 C.F.R. Part 3 (Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States).
[45] *See* 29 C.F.R. § 3.1.
[46] *See* 2 C.F.R. Part 200, Appendix II, § D; 29 C.F.R. §§ 3.1, 3.3(c).
[47] 2 C.F.R. Part 200, Appendix II, § D.
[48] *See* 2 C.F.R. Part 200, Appendix II, § D; 29 C.F.R. § 3.3(c).
[49] *See* 29 C.F.R. § 3.11.
[50] 29 C.F.R. § 5.5(a)(5).

Act" to FEMA.[51]

- Each contractor and subcontractor must provide weekly reports of the wages paid during the prior week's payroll period to each employee covered by the "Copeland Anti-Kickback" Act and the Davis-Bacon Act. The reports must be delivered to a representative of a federal or state agency in charge at the building or work site by the contractor or subcontractor within seven days of the payroll period's payment date.[52]
- Follow the other requirements of the Copeland "Anti-Kickback" Act and implementing regulations.

iii. The following provides a contract clause: "Compliance with the Copeland "Anti-Kickback" Act.

Contractor. The contractor shall comply with 18 U.S.C. § 874, 40 U.S.C. § 3145, and the requirements of 29 C.F.R. Part 3 as may be applicable, which are incorporated by reference into this contract.

Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clause above and such other clauses as FEMA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all of these contract clauses.

Breach. A breach of the contract clauses above may be grounds for termination of the contract, and for debarment as a contractor and subcontractor as provided in 29 C.F.R. § 5.12."

29. Rights to Inventions Made Under a Contract or Agreement.

a. Stafford Act Disaster Grants. This requirement applies to all Public Assistance Grants where the State and /or Subrecipient match is paid by Department of Housing and Urban Development (HUD) Community Development Block Grant– Disaster Recovery (CDBG-DR) funding. Otherwise, it does not apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, Crisis Counseling Assistance and Training Grant Program, Disaster Case Management Grant Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program, as FEMA awards under these programs do not meet the definition of "funding agreement."

b. If the FEMA award meets the definition of "funding agreement" under 37 CFR §401.2(a) and the non-Federal entity wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the non-Federal entity must comply with the requirements of 37 CFR Part 401 (Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements), and any implementing regulations issued by FEMA. See 2 CFR. Part 200, Appendix II, Paragraph F.

c. The regulation at 37 CFR § 401.2(a) currently defines "funding agreement" as any contract, grant, or cooperative agreement entered into between any Federal agency, other

[51] *See* 2 C.F.R. Part 200, Appendix II, § D.
[52] *See* 29 C.F.R. § 3.4.

than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal government. This term also includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as defined in the first sentence of this paragraph.

30. Buy American Construction Materials

a. Buy American Act. This clause implements 41 U.S.C. 8301-8305, Buy American Act ("Act"), by providing a preference for domestic construction material. Contractor or Design-Builder Contractor shall use only domestic construction material in performing this contract, unless (a) an available exception under the Act has been expressly petitioned for specific construction material, reviewed and granted (during the procurement/bid process only) by the Owner's Representative or **PRASA**, or (b) the material is included as an "Excepted Material" in Paragraph g of this Section.

b. Definitions. For purposes of this Contract, the following words shall have the following meaning:

i. "article, material, or supply" are articles, materials, supplies, goods, products and other tangible items, including construction materials, that are purchased through the formal solicitation procedures and which materials are to be used by a contractor or subcontractor in the performance of this Contract.

ii. "construction material" is article, material, or supply used by a contractor or subcontractor for incorporation into the building or work as required in the performance of this Contract;

iii. "domestic construction material" is construction material that is made in America or in Puerto Rico, or that is American-sourced or American-made or that is Puerto Rico-sourced or Puerto Rico-made;

iv. "foreign construction material" is construction material that is made or sourced by a foreign country and that is not domestic construction material;

v. "made in America" means sourced from or made in the 50 States, the District of Columbia, and outlying areas including Puerto Rico.

c. Requesting Inapplicability or Exception. The Contractor or Design-Builder Contractor will submit construction material costs in its Bid Proposal in compliance with the Act. For any request of waiver during the procurement or bid process, inapplicability, or exception of compliance with the Act, Design-Builder Contractor or Contractor shall submit a written request to **PRASA** through the Question System in *Portal AAA* at the bidding process, with at least twenty (20) calendar days before the bid opening. If **PRASA** approves the request, it will be informed by Addendum. If **PRASA** does not emit an opinion or if it the request is not made during the term established herein, it will be understood as rejected and the construction material to be included in Contractor's or Design-Builder Contractor's Proposal must comply with the Act. Request of waiver shall include the following information for evaluation:

i. the specific basis for exception requested for consideration under 41 U.S.C. 8303-8305 or 48 CFR 25.400-25.402 and taking into consideration the dispositions of the FAR Subpart 25.1 (Buy American-Supplies).

ii. description and costs of the material in compliance with the Act and an explanation of the reason that justifies the substitution of material, other than costs savings.

iii. description of each foreign construction material that Contractor or Design-Builder Contractor seeks to use in substitution of the material (including unit of measure, quantity and price in U.S. dollars);

iv. description of the equivalent domestic construction material, if any are available (including unit of measure, quantity and price in U.S. dollars); and

v. any additional information, e.g. regarding price, quality or availability of materials, that may be used in evaluating the cost comparison between the foreign and domestic material, or any other necessary to justify the request, as requested by **PRASA** or Owner's Representative.

d. Price. The price of construction material shall include all delivery costs of the material and all taxes applicable.

e. Foreign Materials Noncompliant. The final decision to grant a waiver or exception to compliance with the Act rests solely with the Owner, Owner's Representative, the Government of Puerto Rico, FEMA, or COR3. The final determination is not subject to the General Conditions, or the contract claims process. If the Act is applicable and no waiver is granted, or if an exception does not apply and the Contractor or Design-Builder Contractor uses foreign construction materials, this will be considered a violation of the Contract. The Contractor or Design-Builder Contractor will be responsible for any damages or consequences that may arise from this action. For a request to use foreign construction materials after this Contract is executed, the Design-Builder Contractor or Contractor shall submit a written request to the Owner's Representative and include the information and evidence described above in this Section for evaluation. Additionally, the Contractor or Design-Builder Contractor should provide a comparison between the cost of the materials provided during the bidding, contracting phase and the cost of the materials subject to the petition. If a waiver is granted after Contract execution or if it is determined that an exception applies, the Design-Builder Contractor or Contractor, in accordance with the internal guidance and policy followed by the Owner or Government of Puerto Rico, will have the Owner's Representative modify this Contract through a Change Order to reflect the applicable cost deductible or change in cost. After the execution of the Change Order, the approved material shall be deemed to have been included as a permitted foreign material under Paragraph g of this Section.

f. Waiver Application after Contract execution. Following execution of the Agreement, **PRASA** will not evaluate or approve any waiver application, other than by basis of non-availability of material, per FAR 25.103(b). The Contractor or Design-Builder Contractor shall submit an application to the Owner's Representative, including the information necessary for evaluation according to FAR 25.103-25.104 in addition to any applicable legal dispositions established in this Section or any other, and provide any necessary information required by the Owner's Representative or Contracting Officer for evaluation. Design-Builder Contractor or Contractor will certify and provide information demonstrating that the material quoted in its Proposal was in compliance with the Act and was available at the time of submitting its Proposal and that after the date of execution of the Contract the material was not available. This is an imperative condition in order to evaluate the application. If the Contractor or Design-Builder Contractor does not receive in writing an approval of the waiver request within twenty (20) calendar days of submitted, the request shall be deemed to have been rejected,

and Contractor or Design-Builder Contractor shall comply and purchase the material in compliance with the Act. The final determination whether or not the waiver is granted is not subject to the General Conditions, or the contract claims process, and for no reason the waiver request may cause delays or justification for an extension of the Contract Time.

g. Excepted Materials. The following materials have been approved for use by Government of Puerto Rico for this Contract: [N/A].

31. Subcontracting.

a. Except as otherwise set forth herein with respect to the Provider's affiliates and named subcontractors described in the Provider's proposal, the Provider shall not subcontract the services under this Agreement, or contract third-party experts or other persons to render the services under this Agreement, without prior written authorization from **PRASA**. A request to hire another service provider shall specify the issues in which the subcontracted provider would take part. All subcontractors must provide the Provider with its certificate of formation and operating agreement, and Good Standing Certificates as proof that that they are duly authorized to do business in Puerto Rico and have complied with its annual corporation repost filing obligations. Provider shall ensure and certify to **PRASA** that all its authorized subcontractors comply with Puerto Rico Laws and Regulations, specifically those provisions related to the required Government Certifications.

b. A subcontract award (see 2 CFR 180.220) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p.189) and 12689 (3 CFR part 1989 Comp., p.235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

c. Provider shall include all of the above-detailed provisions in any and all subcontract agreements and shall be responsible to **PRASA** for its compliance.

32. Prohibition on Contracting for Covered Telecommunications Equipment or Services

a. Section 889(b)(1) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (FY2019 NDAA) and 2 C.F.R. § 200.216, as implemented by FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services (Interim), prohibit the obligation or expending of federal award funds on certain telecommunication products or from certain entities for national security reasons. Effective August 13, 2020, FEMA recipients and subrecipients, as well as their contractors and subcontractors, *may not* obligate or expend any FEMA award funds to:

i. Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

ii. Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system; or

iii. Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

b. Applicability - For purchases in support of FEMA declarations and awards issued on or after November 12, 2020, all FEMA recipients and subrecipients, and their contractors and subcontractors, are required to include this contract provision in all FEMA-funded contracts and subcontracts, including any purchase orders.[53] FEMA strongly encourages the use of this contract clause for any contracts where FEMA funding will be used regardless of whether the funding is from FEMA declarations or awards issued on or after November 12, 2020.

c. The following provides the clause that a state agency or agency of a political subdivision of a state and its contractors can include in contracts:

"Prohibition on Contracting for Covered Telecommunications Equipment or Services

(a) *Definitions.* As used in this clause, the terms backhaul; covered foreign country; covered telecommunications equipment or services; interconnection arrangements; roaming; substantial or essential component; and telecommunications equipment or services have the meaning as defined in FEMA Policy 405-143-1, Prohibitions on Expending FEMA Award Funds for Covered Telecommunications Equipment or Services (Interim), as used in this clause—

(b) *Prohibitions.*

(1) Section 889(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, Pub. L. No. 115-232, and 2 C.F.R. § 200.216 prohibit the head of an executive agency on or after Aug.13, 2020, from obligating or expending grant, cooperative agreement, loan, or loan guarantee funds on certain telecommunications products or from certain entities for national security reasons.

(2) Unless an exception in paragraph (c) of this clause applies, the contractor and its subcontractors may not use grant, cooperative agreement, loan, or loan guarantee funds from the Federal Emergency Management Agency to:

(i) Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(ii) Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;

(iii) Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system; or

(iv) Provide, as part of its performance of this contract, subcontract, or other contractual instrument, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

(c) *Exceptions.*

(1) This clause does not prohibit contractors from providing—

(i) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(ii) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(2) By necessary implication and regulation, the prohibitions also do not apply to:

[53] 2 C.F.R. Part 200, Appendix II, § K (citing 2 C.F.R. § 200.216).

(i) Covered telecommunications equipment or services that:
i. Are *not used* as a substantial or essential component of any system; *and*
ii. Are *not used* as critical technology of any system.
(ii) Other telecommunications equipment or services that are not considered covered telecommunications equipment or services.

(d) Reporting requirement.

(1) In the event the contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the contractor is notified of such by a subcontractor at any tier or by any other source, the contractor shall report the information in paragraph (d)(2) of this clause to the recipient or subrecipient, unless elsewhere in this contract are established procedures for reporting the information.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause:
(i) Within one business day from the date of such identification or notification: The contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.
(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: Any further available information about mitigation actions undertaken or recommended. In addition, the contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts.* The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts and other contractual instruments."

33. <u>Domestic Preferences for Procurements</u>

a. As appropriate, and to the extent consistent with law, NFEs should, to the greatest extent practicable under a federal award, provide a preference for the purchase, acquisition, or use of goods, products or materials produced in the United States. This includes, but is not limited to, iron, aluminum, steel, cement, and other manufactured products.[54]
b. <u>Applicability</u>. For purchases in support of FEMA declarations and awards issued on or after November 12, 2020, all FEMA recipients and subrecipients are required to include in all contracts and purchase orders for work or products a contract provision encouraging domestic preference for procurements.[55]
c. <u>The following provides the clause that a state agency or agency of a political subdivision of a state and its contractors can include in contracts:</u>

[54] *See* 2 C.F.R. § 200.322.

[55] 2 C.F.R. Part 200, Appendix II, § L (citing 2 C.F.R. § 200.322). The requirements of 2 C.F.R. § 200.322 must also be included in all subawards

As appropriate, and to the extent consistent with law, the contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products.

For purposes of this clause:

Produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

Manufactured products mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber."

ARTICLE 4. – HUD GENERAL PROVISION AND OTHER FEDERAL STATUTES, REGULATIONS, AND PRDOH REQUIREMENTS

NON-FEDERAL MATCH PROGRAM

PUERTO RICO AQUEDUCT AND SEWER AUTHORITY

HUD GENERAL PROVISIONS AND OTHER FEDERAL STATUTES, REGULATIONS, AND PRDOH REQUIREMENTS

For every project funded in part or in full by Community Development Block Grant – Disaster Recovery (CDBG-DR/MIT) funds

Given that the Subrecipient Agreements (SRA) signed between PRASA and Puerto Rico Department of Housing (PRDOH), Contract No. PRDOH 2022-DR0157 and Contract No. PRDOH 2023-DR0006, as amended, involves funds for which the U.S. Department of Housing and Urban Development (HUD) is the oversight agency, the following terms and conditions may apply to the SRA. In addition, PRASA, as SUBRECIPIENT and Contractor, shall comply with the Federal Labor Standards Provisions set forth in Form HUD-4010 Attached hereby in **Appendix A** or available at https://www.hudexchange.info/resource/2490/hud-form-4010-federal-labor-standards-provisions/ .

PRASA shall include these terms and conditions in its contracts or purchase orders directly servicing the SRA. In compliance with this requirement, the following terms and conditions are incorporated into the present Agreement and are made an integral part of it. These provisions are applicable to the **CONTRACTOR** and shall be included in every subcontract issued by it, so that such provisions will be binding upon each and every one of its subcontractors, flowing down such terms to all lowered-tiered subcontractors. Further, the **CONTRACTOR** and each and every one of its subcontractors shall provide and subscribe all required documentation, as it may be required, in order for PRASA to comply with the provisions of the SRA.

These general provisions, including Form HUD-410, may be updated from time to time. It is the sole responsibility of the **CONTRACTOR** and its subcontractors to be aware of any changes hereto, to amend and implement such changes and to ensure subcontracts terms and conditions are modified as necessary, if any.

General Provisions:

1. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this Agreement shall be deemed to be inserted herein and the Agreement shall be read and enforced as though it 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 Agreement shall forthwith be physically amended to make such insertion or correction.

2. STATUTORY AND REGULATORY COMPLIANCE

The **CONTRACTOR** shall comply with all laws and regulations applicable to the Community Development Block Grant-Disaster Recovery funds appropriated by the Supplemental Appropriations for Disaster Relief Requirements, 2017 (Pub. L. 115-56), approved September 8, 2017 (Appropriations Act), as amended, including but not limited to the applicable Office of Management and Budget Circulars, which may impact the administration of funds and/or set forth certain cost principles, including if certain expenses are allowed.

3. BREACH OF SUBRECIPIENT AGREEMENT TERMS

PRDOH reserves its right to all administrative, contractual, or legal remedies, including but not limited to suspension or termination of the SRA, in instances where the SUBRECIPIENT or the **CONTRACTOR** violate or breach any SRA term. If the SUBRECIPIENT or the **CONTRACTOR** violate or breach any SRA term, they shall be subject to such sanctions and penalties as may be appropriate. The duties and obligations imposed by the SRA documents, and the rights and remedies available thereunder, shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

4. REPORTING REQUIREMENTS

The **CONTRACTOR** shall complete and submit all reports, in such form and according to such schedule, as may be required by PRASA, the PRDOH and/or the Government of Puerto Rico. The **CONTRACTOR** shall cooperate with all PRASA, the PRDOH and/or the Government of Puerto Rico efforts to comply with HUD requirements and regulations pertaining to reporting, including but not limited to 2 C.F.R. § 200.328 and 24 C.F.R. § 570.507, when applicable.

5. SMALL AND MINORITY FIRMS, WOMEN'S BUSINESS ENTERPRISES, AND LABOR SURPLUS AREA FIRMS

The **CONTRACTOR** will take necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used in subcontracting when possible. Steps include, but are not limited to:

(i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
(ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
(iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

(iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises; and
(v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce.

Additionally, for contracts of $10,000 or more, the **CONTRACTOR** shall file Form HUD 2516 (Contract and Subcontract Activity) with PRASA on a quarterly basis.

6. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

Contracts or agreements for the performance of experimental, developmental, or research work shall provide for the rights of the Federal Government and the recipient in any resulting invention in accordance with 37 C.F.R. Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms under Government Grants, Contracts and Cooperative Agreements", and any implementing regulations issued by HUD.

7. DEBARMENT, SUSPENSION, AND INELIGIBILITY

The **CONTRACTOR** represents and warrants that it and its subcontractors are not debarred or suspended or otherwise excluded from or ineligible for participation in Federal assistance programs subject to 2 C.F.R. Part 2424. The **CONTRACTOR** shall comply with subpart C of 2 C.F.R. part 180, as supplemented by subpart C of 2 C.F.R. part 2424, and include a similar term or condition in lower-tier covered transactions.

The **CONTRACTOR** is responsible for determining if any subcontractor is excluded, disqualified suspended or debarred for participating in Federal Assistance Programs.

Pursuant to 2 CFR 2424.300, the **CONTRACTOR** is responsible for determining whether they are entering into a covered transaction with an excluded or disqualified person/firm for subcontracts expected to equal or exceed $25,000.

The **CONTRACTOR** shall verify debarment or suspension of subcontractors by checking the Excluded Parties List System (EPLS), registration in SAM.GOV or collecting a certification from the subcontractor participant/firm that neither it nor its principals are debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation. If **CONTRACTOR** decides to use EPLS to check the subcontractor's unique identifier and receive a "no records" response, this is not an acceptable debarment check per HUD and a certification will be required. The **CONTRACTOR** must maintain in its files the documentation to substantiate a subcontractor is not excluded/debarred and shall provide the documentation to PRASA.

8. CONFLICTS OF INTEREST

The **CONTRACTOR** shall notify to PRASA as soon as possible if this Agreement or any aspect related to the anticipated work under this Agreement raises an actual or potential

conflict of interest, if applicable. The **CONTRACTOR** shall explain the actual or potential conflict in writing in sufficient detail so that PRASA is able to assess such actual or potential conflict. The **CONTRACTOR** shall provide to PRASA any additional information necessary to fully assess and address such actual or potential conflict of interest. The **CONTRACTOR** shall accept any reasonable conflict mitigation strategy employed by PRASA, including but not limited to the use of an independent subcontractor(s) to perform the portion of work that gives rise to the actual or potential conflict.

9. SUBCONTRACTING

When subcontracting, the **CONTRACTOR** shall solicit for and contract with such subcontractors in a manner providing for fair competition. Some of the situations considered to be restrictive of competition include, but are not limited to:

(i) Placing unreasonable requirements on firms in order for them to qualify to do business;
(ii) Requiring unnecessary experience and excessive bonding;
(iii) Noncompetitive pricing practices between firms or between affiliated Companies;
(iv) Noncompetitive awards to consultants that are on retainer contracts,
(v) Organizational conflicts of interest;
(vi) Specifying only a brand name product instead of allowing an equal product to be offered and describing the performance of other relevant requirements of the procurement; and
(vii) Any arbitrary action in the procurement process.

The **CONTRACTOR** represents to PRASA that all work shall be performed by personnel experienced in the appropriate and applicable profession and areas of expertise, taking into account the nature of the work to be performed under this Agreement.

The **CONTRACTOR** will include these HUD General Provisions in every subcontract issued by it, so that such provisions will be binding upon each of its subcontractors as well as the requirement to flow down such terms to all lower-tiered subcontractors.

10. ASSIGNABILITY

The **CONTRACTOR** shall not assign any interest in this Agreement and shall not transfer any interest in the same (whether by assignment or novation) without prior written approval of PRASA.

11. COPELAND "ANTI-KICKBACK" ACT (Applicable to all construction or repair contracts)

Salaries of personnel performing work under this Agreement shall be paid unconditionally and not less often than once a month without payroll deduction or rebate on any account except only such payroll deductions as are mandatory by law or permitted by the applicable regulations issued by the Secretary of Labor pursuant to the Copeland

"Anti-Kickback Act" of 1934, 48 Stat. 948; (codified at 18 U.S.C. §874; and 40 U.S.C. §3145). The **CONTRACTOR** shall comply with all applicable "Anti-Kickback" regulations and shall insert appropriate provisions in all subcontracts covering work under this Agreement to ensure compliance by subcontractors with such regulations, and shall be responsible for the submission of affidavits required of subcontractors thereunder except as the Secretary of Labor may specifically provide for variations of or exemptions from the requirements thereof.

12. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT (Applicable to construction contracts exceeding $2,000 and contracts exceeding $2,500 that involve the employment of mechanics or laborers.)

The **CONTRACTOR** shall comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. §§3701-3708) as supplemented by Department of Labor regulations (29 C.F.R. Part 5).

All laborers and mechanics employed by the **CONTRACTOR** or subcontractors shall receive overtime compensation in accordance with and subject to the provisions of the CWHSSA, and the **CONTRACTOR** and subcontractors shall comply with all regulations issued pursuant to that act and with other applicable Federal laws and regulations pertaining to labor standards.

13. DAVIS-BACON ACT (Applicable to construction contracts exceeding $2,000 when required by Federal program legislation.)

The **CONTRACTOR** shall comply with the Davis Bacon Act (40 U.S.C. §3141 *et seq.*) as supplemented by Department of Labor regulations (29 C.F.R. Part 5).

All laborers and mechanics employed by the **CONTRACTOR** or subcontractors, including employees of other governments, on construction work assisted under this Agreement, and subject to the provisions of the federal acts and regulations listed in this paragraph, shall be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis Bacon Act. Refer to clause number 60 of this document.

On a semi-annual basis, the **CONTRACTOR** shall submit Form HUD 4710 (Semi-Annual labor Standards Enforcement Report) to PRASA.

14. TERMINATION FOR CAUSE (Applicable to contracts exceeding $10,000)

If, through any cause, the **CONTRACTOR** shall fail to fulfill in a timely and proper manner his or her obligations under this Agreement, or if the **CONTRACTOR** shall violate any of the covenants, agreements, or stipulations of this Agreement, PRASA shall thereupon have the right to terminate this Agreement by giving written notice to the **CONTRACTOR** of such termination and specifying the effective date thereof, **at least five (5) days** before the effective date of such termination. In such event, all finished or unfinished documents,

data, studies, surveys, drawings, maps, models, photographs, and reports prepared by the **CONTRACTOR** under this Agreement shall, at the option of PRASA, become the PRASA's property and the **CONTRACTOR** shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder. Notwithstanding the above, the **CONTRACTOR** shall not be relieved of liability to PRASA, the Government of Puerto Rico and PRDOH for damages sustained by PRASA, the Government of Puerto Rico and/or PRDOH by virtue of any breach of the Agreement by the **CONTRACTOR**, and PRASA, the Government of Puerto Rico and/or PRDOH may withhold any payments to the **CONTRACTOR** for the purpose of set-off until such time as the exact amount of damages due to PRASA, the Government of Puerto Rico and/or PRDOH from the **CONTRACTOR** is determined.

15. TERMINATION FOR CONVENIENCE (Applicable to contracts exceeding $10,000)

PRASA may terminate this Agreement at any time by giving at least a **ten (10) days'** notice in writing to the **CONTRACTOR**. If the Agreement is terminated by PRASA as provided herein, the **CONTRACTOR** will be paid for the time provided and expenses incurred up to the termination date.

16. SECTION 503 OF THE REHABILITATION ACT OF 1973 (Applicable to contracts exceeding $10,000)

The **CONTRACTOR** shall comply with Section 503 of the Rehabilitation Act of 1973 (29 U.S.C. §793), as amended, and any applicable regulations.

Equal Opportunity for Workers with Disabilities:

1) The **CONTRACTOR** will not discriminate against any employee or applicant for employment because of physical or mental disability in regard to any position for which the employee or applicant for employment is qualified. The **CONTRACTOR** agrees to take affirmative action to employ, advance in employment and otherwise treat qualified individuals with disabilities without discrimination based on their physical or mental disability in all employment practices, including the following:

   (i) Recruitment, advertising, and job application procedures;
   (ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;
   (iii) Rates of pay or any other form of compensation and changes in compensation;
   (iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;
   (v) Leaves of absence, sick leave, or any other leave;
   (vi) Fringe benefits available by virtue of employment, whether or not administered by the **CONTRACTOR**;
   (vii) Selection and financial support for training, including apprenticeship, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the **CONTRACTOR** including social or recreational programs; and
(ix) Any other term, condition, or privilege of employment.

2) The **CONTRACTOR** agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

3) In the event of the **CONTRACTOR**'s noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

4) The **CONTRACTOR** agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, provided by or through the contracting officer. Such notices shall state the rights of applicants and employees as well as the **CONTRACTOR**'s obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants with disabilities. The **CONTRACTOR** must ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the **CONTRACTOR** may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair).

5) The **CONTRACTOR** will notify each labor organization or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the **CONTRACTOR** is bound by the terms of Section 503 of the Rehabilitation Act of 1973, as amended, and is committed to take affirmative action to employ and advance in employment individuals with physical or mental disabilities.

6) The **CONTRACTOR** will include the provisions of this clause in every subcontract or purchase order in excess of $10,000, unless exempted by the rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Rehabilitation Act of 1973, as amended, as amended, so that such provisions will be binding upon each subcontractor or vendor. The **CONTRACTOR** will take such action with respect to any subcontract or purchase order as the Deputy Assistant Secretary for Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

17. EQUAL EMPLOYMENT OPPORTUNITY (Applicable to construction contracts and subcontracts exceeding $10,000)

The **CONTRACTOR** shall comply with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 C.F.R. Subpt. B, Ch. 60).

During the performance of this Agreement, the **CONTRACTOR** agrees as follows:

1) The **CONTRACTOR** shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The **CONTRACTOR** shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be 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, including apprenticeship.

2) The **CONTRACTOR** shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer setting forth the provisions of this non-discrimination clause. The **CONTRACTOR** shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

3) The **CONTRACTOR** will, in all solicitations or advertisements for employees placed by or on behalf of the **CONTRACTOR**, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

4) The **CONTRACTOR** will send to each labor union or representative of workers with which he or she has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers representative of the **CONTRACTOR**'s commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

5) The **CONTRACTOR** will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.

6) The **CONTRACTOR** will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to books, records and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

7) In the event of the **CONTRACTOR**'s non-compliance with the non-discrimination clause of this Agreement or with any of such rules, regulations or orders, this Agreement may be cancelled, terminated or suspended in whole or in part and the **CONTRACTOR** may be declared ineligible for further government contracts in accordance with procedures authorized in Executive Order 11246 and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

8) **CONTRACTOR** shall incorporate the provisions of 1 through 7 above in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor so that such provisions shall be binding on such subcontractor. The **CONTRACTOR** will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance, provided, however, that in the event the **CONTRACTOR** becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the **CONTRACTOR** may request the United States to enter into such litigation to protect the interests of the United States.

18. CERTIFICATION OF NONSEGREGATED FACILITIES (Applicable to construction contracts exceeding $10,000)

The **CONTRACTOR** certifies that it does not maintain or provide for its establishments, and that it does not permit employees to perform their services at any location, under its control, where segregated facilities are maintained. It certifies further that it will not maintain or provide for employees any segregated facilities at any of its establishments, and it will not permit employees to perform their services at any location under its control where segregated facilities are maintained. The **CONTRACTOR** agrees that a breach of this certification is a violation of the equal opportunity clause of this Agreement.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason.

The **CONTRACTOR** further agrees that (except where it has obtained for specific time periods) it will obtain identical certification from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the equal opportunity clause; that it will retain such certifications in its files; and that it will forward the preceding notice to such proposed subcontractors (except where proposed subcontractors have submitted identical certifications for specific time periods).

19. CERTIFICATION OF COMPLIANCE WITH CLEAN AIR AND WATER ACTS (Applicable to contracts exceeding $100,000)

The **CONTRACTOR** and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 U.S.C. § 7401 *et seq.*, the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251 *et seq.*, and the regulations of the Environmental Protection Agency with respect thereto, at 40 C.F.R. Ch. I, Subch. C, Pt. 60, Subpt. B and Ch. I, Subch. C, Pt. 93, Subpt. B, as amended, Section 508 of the Federal Water Pollution Control Act (33 U.S.C. § 1368) and Executive Order 11738 of September 10, 1973.

In addition to the foregoing requirements, all nonexempt contractors and subcontractors shall furnish to the owner, the following:

1) A stipulation by the **CONTRACTOR** or subcontractors, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the Excluded Party Listing System pursuant to Ch. I, Subch. C, Pt. 93, Subpt. B or on the List of Violating Facilities issued by the Environmental Protection Agency (**EPA**) pursuant to 40 C.F.R. Ch. I, Subch. C, Pt. 60, Subpt. B, as amended.

2) Agreement by the **CONTRACTOR** to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 U.S.C. §7414) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 U.S.C. §1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

3) A stipulation that as a condition for the award of the Agreement, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the Agreement, is under consideration to be listed on the Excluded Party Listing System or the EPA List of Violating Facilities.

4) Agreement by the **CONTRACTOR** that he or she will include, or cause to be included, the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the **CONTRACTOR** will take such action as the government may direct as a means of enforcing such provisions.

20. ANTI-LOBBYING (Applicable to contracts exceeding $100,000)

By the execution of this Agreement, the **CONTRACTOR** certifies, to the best of his or her knowledge and belief, that:

1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the **CONTRACTOR**, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or

cooperative agreement, the **CONTRACTOR** shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

3) The **CONTRACTOR** shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that the **CONTRACTOR** shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

21. BONDING AND INSURANCE REQUIREMENTS (Applicable to construction and facility improvement contracts exceeding $100,000)

The **CONTRACTOR** shall comply with 2 C.F.R. §200.326 minimum bonding requirements:

1) A bid guarantee from each bidder equivalent to five percent (5%) of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his or her bid, execute such contractual documents as may be required within the time specified.

2) A performance bond on the part of the **CONTRACTOR** for one hundred percent (100%) of the Agreement price. A "performance bond" is one executed in connection with a contract to secure fulfillment of the **CONTRACTOR**'s obligations under such agreement.

3) A payment bond on the part of the **CONTRACTOR** for one hundred percent (100%) of the Agreement price. A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the agreement.

Also, the **CONTRACTOR** shall carry sufficient insurance coverage and bonding from insurers licensed to conduct business in the Government of Puerto Rico to protect all contract assets from loss due to any cause, including but not limited to theft, fraud, and/or physical damage. The Government of Puerto Rico, the Puerto Rico Department of Housing, the Puerto Rico Aqueduct and Sewer Authority (PRASA), and the U.S. Department of Housing and Urban Development shall be named as additional insured on all such insurance. The **CONTRACTOR** shall meet all other insurance requirements as PRASA may impose from time to time. In addition, all insurance carriers and bonding companies shall meet minimum size and financial stability/financial rating requirements as may be imposed by the PRDOH or PRASA from time to time. Certificates of insurance

shall be provided to the PRASA and full and complete copies of the policies and/or bonds shall be provided to the PRDOH and PRASA, upon its request for same.

22. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968

A. The work to be performed under this Agreement is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. §1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this Agreement agree to comply with HUD's regulations in 24 C.F.R. Part 75, which implement Section 3. As evidenced by their execution of this Agreement, the parties to this Agreement certify that they are under no contractual or other impediment that would prevent them from complying with the in 24 C.F.R. Part 75 regulations.

C. The **CONTRACTOR** agrees to send to each labor organization or representative of workers with which the **CONTRACTOR** has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the **CONTRACTOR**'s commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The **CONTRACTOR** agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 C.F.R. Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 C.F.R. Part 75. The **CONTRACTOR** will not subcontract with any subcontractor where the **CONTRACTOR** has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 C.F.R. Part 75.

E. The **CONTRACTOR** acknowledges that subcontractors are required to meet the employment, training, and contracting requirements of 24 C.F.R. 75.19, regardless of whether Section 3 language is included in recipient or **CONTRACTOR** agreements, program regulatory agreements, or contracts signed after this Agreement.

F. The **CONTRACTOR** will certify that any vacant employment positions, including training positions, that are filled: (1) after the **CONTRACTOR** is selected but before the Agreement is executed, and (2) with persons other than those to whom the regulations

of 24 C.F.R. Part 75 require employment opportunities to be directed, were not filled to circumvent the **CONTRACTOR**'s obligations under 24 C.F.R. Part 75.

G. Noncompliance with HUD's regulations in 24 C.F.R. Part 75 may result in sanctions, termination of this Agreement for default, and debarment or suspension from future HUD assisted contracts.

H. With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (46 U.S.C. § 5307) also applies to the work to be performed under this Agreement. Section 7(b) requires that to the greatest extent feasible: (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this Agreement that are subject to the provisions of Section 3 and Section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

I. The **CONTRACTOR** agrees to submit, and shall require its subcontractors to submit to them, quarterly reports to PRASA detailing the total number of labor hours worked on the Section 3 Project, the total number of labor hours worked by Section 3 Workers, and the total number of hours worked by Targeted Section 3 Workers, and any affirmative efforts made during the quarter to direct hiring efforts to low- and very low-income persons, particularly persons who are Section 3 Workers and Targeted Section 3 Workers.

23. UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT (URA)

Every project funded in part or in full by Community Development Block Grant – Disaster Recovery (CDBG-DR/MIT) funds, and all activities related to that project, are subject to the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA), as amended, 42 U.S.C. §4601 *et seq.*, and section 104(d) of the Housing and Community Development Act of 1992, as amended (HCDA), 42 U.S.C. §5304(d), except where waivers or alternative requirements have been provided by the U.S. Department of Housing and Urban Development (HUD).

The implementing regulations for URA are at 49 C.F.R. Part 24, and the regulations for section 104(d) are at 24 C.F.R. Part 42, subpart C. Additionally, HUD has established regulations specific to CDBG-funded housing activities at 24 C.F.R. § 570.606. PRDOH has also established the Uniform Relocation Assistance Guide & Residential Anti Displacement and Relocation Assistance Plan (URA & ADP Guide) which provides guidance and requirements regarding URA compliance and minimizing displacement that are applicable to all CDBG-DR/MIT programs. The primary purpose of these laws and regulations is to provide uniform, fair, and equitable treatment of persons whose real property is acquired or who are displaced in connection with federally funded projects.

When CDBG-DR/MIT funds are planned, intended, or used for any activity or phase of a project and the phases are interdependent, URA applies to that activity or project. This includes any property acquisition, even if CDBG-DR/MIT funds are not used to fund the purchase, if the contract to acquire property is executed with the intention of seeking CDBG-DR/MIT funds to complete the project or an interdependent phase of the project. The **CONTRACTOR** is responsible for ensuring URA compliance throughout the design, proposal, and implementation of any project that includes real property acquisition or displacement of residential or business occupants.

24. FAIR HOUSING ACT

The **CONTRACTOR** shall comply with the provisions of the Fair Housing Act of 1968, as amended. The Act prohibits discrimination in the sale or rental of housing, the financing of housing or the provision of brokerage services against any person on the basis of race, color, religion, sex, national origin, disability, or familial status. The Equal Opportunity in Housing Act prohibits discrimination against individuals on the basis of race, color, religion, sex or national origin in the sale, rental, leasing or other disposition of residential property, or in the use or occupancy of housing assisted with Federal funds.

25. ENERGY POLICY AND CONSERVATION ACT

The **CONTRACTOR** shall comply with mandatory standards and policies relating to energy efficiency as contained in the Government of Puerto Rico's energy conservation plan, issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201 *et seq*).

26. POLITICAL ACTIVITY

The **CONTRACTOR** agrees to comply with mandatory standards and policies relating to Hatch Political Activity Act (Hatch Act), 5 U.S.C. §§1501–1508, which limits the political activity of employees.

The **CONTRACTOR** shall comply with the Hatch Act and shall ensure that no funds provided, nor personnel employed under this Agreement, shall be in any way or to any extent engaged in the conduct of political activities in violation of the Hatch Act, 5 U.S.C. §§1501–1508.

The Hatch Act applies to political activities of certain state and local employees. As a PRDOH's SUBRECIPENT, PRASA may participate in any of the following activities: be a candidate in nonpartisan elections; attend political meetings and conventions; contribute money; campaign in partisan elections; and hold office in political parties.

The SUBRECIPIENT may not do the following activities: be a candidate in partisan elections; use official influence to interfere in elections; coerce political contributions from subordinates in support of political parties or candidates the office of special counsel operates a website that provides guidance concerning hatch act issues.

27. HEALTH AND SAFETY STANDARDS

All parties participating in this project agree to comply with Sections 3702 and 3704(a) of the Contract Work Hours and Safety Standards Act (CWHSSA), 40 U.S.C. §§3702 and 3704. Section 3704(a) of the Act is applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions, which are unsanitary, hazardous, or dangerous to his or her health and safety as determined under construction, safety, and health standards promulgated by the Secretary of Labor. These requirements do not apply to a contract to acquire a commercial product (as defined in 41 U.S.C. §103) or a commercial service (as defined in 41 U.S.C. §103a).

28. PERSONNEL

The **CONTRACTOR** represents that it has, or will secure at its own expense, all personnel required in performing the services under this Agreement. Such personnel shall not be employees of, or have any contractual relationship with, the contracting party. All the services required hereunder will be performed by the **CONTRACTOR** or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services. No person who is serving sentence in a penal or correctional institution shall be employed on work under this Agreement.

29. WITHHOLDING OF WAGES

If in the performance of this Agreement, there is any underpayment of wages by the **CONTRACTOR** or by any subcontractor thereunder, PRASA may withhold from the **CONTRACTOR** out of payment due to him or her an amount sufficient to pay to employees underpaid the difference between the wages required thereby to be paid and the wages actually paid such employees for the total number of hours worked. The amounts withheld may be disbursed by PRASA for and on account of the **CONTRACTOR** or subcontractor to the respective employees to whom they are due.

30. CLAIMS AND DISPUTES PERTAINING TO WAGE RATES

Claims and disputes pertaining to wage rates or to classifications of professional staff or technicians performing work under this Agreement shall be promptly reported in writing by the **CONTRACTOR** to PRASA for the latter's decision, which shall be final with respect thereto.

31. DISCRIMINATION BECAUSE OF CERTAIN LABOR MATTERS

No person employed on the services covered by this Agreement shall be discharged or in any way discriminated against because he or she has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable hereunder to his or her employer.

32. INTEREST OF MEMBERS OF LOCAL PUBLIC AGENCY AND OTHERS

The **CONTRACTOR** agrees to establish safeguards to prohibit employees from using positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have a family, business, or other tie. The **CONTRACTOR** will be aware of and avoid any violation of the laws of this State which prohibit municipal officers and employees from having or owning any interest or share, individually or as agent or employee of any person or corporation, either directly or indirectly, in any contract made or let by the governing authorities of such municipality for the construction or doing of any public work, or for the sale or purchase of any materials, supplies or property of any description, or for any other purpose whatsoever, or in any subcontract arising therefrom or connected therewith, or to receive, either directly or indirectly, any portion or share of any money or other thing paid for the construction or doing of any public work, or for the sale or purchase of any property, or upon any other contract made by the governing authorities of the municipality, or subcontract arising therefore or connected therewith.

The **CONTRACTOR** will also be aware of and avoid any violation of the laws of this State which prescribe a criminal penalty for any public officer who has an interest in any contract passed by the board of which he or she is a member during the time he or she was a member and for one year thereafter.

33. INTEREST OF CERTAIN FEDERAL OFFICERS

No member of, or delegate to, the Congress of the United States and no Resident Commissioner shall be admitted any share or part of this Agreement or to any benefit to arise therefrom.

34. INTEREST OF CONTRACTOR

The **CONTRACTOR** agrees that it presently has no interest and shall not acquire any interest, direct or indirect, in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of the Work hereunder. The **CONTRACTOR** further agrees that no person having any such interest shall be employed in the performance of this Agreement.

35. RELIGIOUS ACTIVITY

The **CONTRACTOR**, in compliance with 24 C.F.R. 570.200(j) and 24 C.F.R. §5.109(c), agrees to provide equal participation to faith-based organizations in HUD programs and activities and to abstain from disfavoring any faith-based organization, including by failing to select a faith-based organization, disqualifying an faith-based organization, or imposing any condition or selection criterion that otherwise disfavors or penalizes an faith-based organizations in the selection process using any funds related to this Agreement.

36. FLOOD DISASTER PROTECTION ACT OF 1973

The **CONTRACTOR** will ensure that procedures and mechanisms are put into place to monitor compliance with all flood insurance requirements as found Section 202(a) of the Flood Disaster Protection Act of 1973, 42 U.S.C. 4106, and the regulations in 44 C.F.R. Parts 59 through 79 and 24 C.F.R. §570.605.

37. LEAD BASED PAINT

The **CONTRACTOR** must comply with the regulations regarding lead-based paint found at 24 C.F.R. Part 35, Subpt. A on LEAD-BASED PAINT POISONING PREVENTION IN CERTAIN RESIDENTIAL STRUCTURES with regards to all housing units assisted using CDBG-DR/MIT funds.

38. VALUE ENGINEERING (Applicable to construction contracts exceeding $2,000 when required by Federal Program legislation.)

The **CONTRACTOR** must comply with the regulations regarding systematic and organized approach to analyze functions of systems, equipment, facilities, services, and materials to ensure they achieve their essential functions at the lowest cost consistent to life cycle in execution, reliability, quality, and safety, in accordance with 2 C.F.R. §200.318(g).

39. GENERAL COMPLIANCE

The **CONTRACTOR** shall comply with all applicable provisions of the Housing and Community Development Act of 1974, as amended, and the regulations at 24 C.F.R. §570, as modified by the Federal Register notices that govern the use of CDBG-DR/MIT funds available under this Agreement. See Federal Register Notice 83 FR 5844 (February 9, 2018). Notwithstanding the foregoing, (1) the **CONTRACTOR** does not assume any applicable of the PRDOH's responsibilities for environmental review, decision making, and action, described in 24 C.F.R. Part 58 and (2) the **CONTRACTOR** does not assume any applicable of the PRDOH's responsibilities for initiating the review process under the provisions of 24 C.F.R. Part 52.

The **CONTRACTOR** shall also comply with all other applicable Federal, state and local laws, regulations, and policies that govern the use of the CDBG-DR/MIT funds in complying with its obligations under this Agreement, regardless of whether CDBG-DR/MIT funds are made available to the **CONTRACTOR** on an advance or reimbursement basis. This includes without limitation, applicable Federal Registers; 2 C.F.R. Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards; Community Development Act of 1974; 24 C.F.R. Part 570 Community Development Block Grant; applicable waivers; Fair Housing Act, 24 C.F.R. Part 35, Subpt. A; 24 C.F.R. Part 58; 24 C.F.R. Part 75; National Historic Preservation Act, and any other applicable state laws or regulations, including the requirements related to nondiscrimination, labor standards and the environment; and Action Plan amendments and HUD's guidance on the funds.

Where waivers or alternative requirements are provided for in the applicable Federal Register Notice dated February 9, 2018, at 83 FR 5844 or any future Federal Register Notice published by HUD ("HUD Notices"), such requirements, including any regulations referenced therein, shall apply.

The **CONTRACTOR** also agrees to comply with all other applicable Federal, State, and local laws, regulations, HUD Notices, policies, and guidelines, whether existing or to be established, provided the same are applied to activities occurring after the date the policy or guideline was established, governing the Grant Funds provided under this Agreement. In the event a conflict arises between the provisions of this Agreement and any of the foregoing, the Federal, State, and local laws, regulations, HUD Notices, policies, and guidelines shall control and this Agreement shall be interpreted in a manner so as to allow for the terms contained herein to remain valid and consistent with such Federal, State, and local laws, regulations, HUD Notices, policies and guidelines.

The **CONTRACTOR** shall also comply with applicable PRASA's and PRDOH's policies and guidelines as established in Program Guidelines and their amendments, if any, as found in the CDBG-DR Website (www.cdbg-dr.pr.gov) which are herein included and made integral part of this Agreement, as it may be updated from time to time.

40. DUPLICATION OF BENEFITS

The **CONTRACTOR** shall not carry out any of the activities under this Agreement in a manner that results in a prohibited duplication of benefits as defined by Section 312 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. §5155) and described in Appropriations Act. The **CONTRACTOR** must comply with HUD's requirements for duplication of benefits, imposed by Federal Register notice on the PRDOH, which are published in a separate notices entitled: "Clarification to Duplication of Benefits Requirements Under the Stafford Act for Community Development Block Grant (CDBG) Disaster Recovery Grantees" (November 16, 2011, 76 FR 71060); "Updates to Duplication of Benefits Requirements Under the Stafford Act for Community Development Block Grant (CDBG) Disaster Recovery Grantees" (June 20, 2019, 84 FR 28836); and "Applicability of Updates to Duplication of Benefits Requirements Under the Stafford Act for Community Development Block Grant (CDBG) Disaster Recovery Grantees," (June 20, 2019, 84 FR 28848). The **CONTRACTOR** shall carry out the activities under this Agreement in compliance with PRDOH's procedures to prevent duplication of benefits.

41. DRUG-FREE WORKPLACE

The **CONTRACTOR** must comply with drug-free workplace requirements in 2 C.F.R. §§182.200 through 182.230 of the Drug-Free Workplace Act of 1988, 41 U.S.C. §§8101-8106.

42. HOLD HARMLESS

The **CONTRACTOR** shall and hereby agrees to hold harmless, defend (with counsel acceptable to PRASA) and indemnify PRASA, the Government of Puerto Rico, PRDOH,

HUD and each and all of its successors, affiliates, or assigns, and any of their employees, officers, directors, attorneys, consultants, agents, managers, and affiliates, from and against any and all damages, costs, attorneys' fees, claims, expenses, injuries, property damage, causes of action, violations of law, violations of this Agreement, and losses of any form or nature arising from or related to the conduct of the **CONTRACTOR** in the performance of the efforts called for in this Agreement. This indemnity shall expressly include, but is not limited to, the obligation of the **CONTRACTOR** to indemnify and reimburse PRASA for any and all attorneys' fees and other litigation or dispute resolution costs incurred or to be incurred in PRASA's enforcement of this Agreement or any portion thereof against the **CONTRACTOR** or otherwise arising in connection with the **CONTRACTOR**'s breach, violation, or other noncompliance with this Agreement. This clause shall survive indefinitely the termination of this Agreement for any reason.

43. PRDOH RECOGNITION

Unless otherwise directed by PRASA, the **CONTRACTOR** shall ensure recognition of the role of HUD and the PRDOH in providing funding, services, and efforts through this Agreement. Unless otherwise directed by PRASA, all activities, facilities, and items utilized pursuant to this Agreement shall be prominently labeled as to role of HUD and of the PRDOH. In addition, the **CONTRACTOR** shall include a reference to the support provided herein in all publications made possible with funds made available under this Agreement. PRASA reserves the right to direct specific reasonable recognition requirements on a case-by-case basis, including but not limited, to the size and content, waiver, removal or addition of such recognition.

44. LOGOS CLAUSE

The **CONTRACTOR** will not use the name of PRASA or PRDOH, seals, logos, emblems or any distinctive trademark/ trade name, without the prior written express authorization of PRASA.

45. UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS

The **CONTRACTOR** shall comply with the applicable provisions in 2 C.F.R. Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Part 200.

46. FINANCIAL & PROGRAM MANAGEMENT

The SUBRECIPIENT shall expend and account for all CDBG-DR/MIT funds received under this Agreement in accordance with 2 C.F.R. § 200.302 and 2 C.F.R. § 200.303 and agrees to adhere to the accounting principles and procedures required therein, utilize adequate internal controls, and maintain necessary source documentation for all costs incurred.

The SUBRECIPIENT shall administer its program in conformance with Cost Principles as outlined in 2 C.F.R. §200.400 through 2 C.F.R. §200.476, as applicable. These principles shall be applied for all costs incurred whether charged on a direct or indirect basis.

47. DOCUMENTATION AND RECORD KEEPING

The **CONTRACTOR** shall maintain all records required by applicable law to be maintained, including but not limited to the Federal regulations specified in (1) 2 C.F.R. Part 200; (2) 24 C.F.R. §570.506; and (3) the applicable HUD Notices that are pertinent to the activities to be funded under this Agreement, as well as any additional records required by PRASA. Such records shall include but not be limited to:

a. Records providing a full description of each activity undertaken;
b. Records demonstrating that each activity undertaken meets one of the National Objectives of the CDBG-DR/MIT programs, as modified by the HUD Notices;
c. Records required to determine the eligibility of activities;
d. Records required to document the acquisition, improvement, use, or disposition of real property acquired or improved with CDBG-DR/MIT funds;
e. Records documenting compliance with the fair housing and equal opportunity components of the CDBG-DR/MIT program;
f. Financial records as required by (1) 24 C.F.R. §570.502; and (2) 2 C.F.R. Part 200;
g. Other records necessary to document compliance with Subpart K of 24 C.F.R. Part 570.

48. ACCESS TO RECORDS

PRASA, the Government of Puerto Rico, the PRDOH, HUD, the Comptroller General of the United States, or any of their duly authorized representatives, shall have at any time and from time to time during normal business hours, access to any work product, books, documents, papers, and records of the **CONTRACTOR** which are related to this Agreement, for the purpose of inspection, audits, examinations, and making excerpts, copies and transcriptions.

49. RECORD RETENTION AND TRANSMISSION OF RECORDS TO THE PRDOH

The **CONTRACTOR** shall retain all official records on programs and individual activities shall be retained for the greater of **five (5) years**, starting from the closeout of this Agreement. If any other laws and regulations as described in 24 C.F.R. §570.490 applies to a project, the record retention period may be extended. All records involved in litigation, claims, audits, negotiations, or other actions, which have started before the expiration date of their retention, will be kept until completion of the action and resolution of all issues or the end of the regular **five (5) years period**, whichever is longer. (See 2 C.F.R. §200.334 and 24 C.F.R. §570.490(d).)

Records shall be made available to PRASA upon request.

50. CLIENT DATA AND OTHER SENSITIVE INFORMATION

In the event that the **CONTRACTOR** comes to possess client data and other sensitive information as a result of this Agreement, then the **CONTRACTOR** shall maintain client data demonstrating client eligibility for services provided. Such data shall include, but not be limited to, client name, address, income level or other basis for determining eligibility, and description of service provided. Such information shall be made available to PRASA monitors or their designees for review upon request.

The **CONTRACTOR** must comply with 2 C.F.R. §200.303 and shall take reasonable measures to safeguard protected personally identifiable information, as defined in 2 C.F.R. §200.82, and other information PRASA, HUD or the PRDOH designates as sensitive or the **CONTRACTOR** considers sensitive consistent with applicable Federal, state, local, and tribal laws regarding privacy and obligations of confidentiality. Additionally, the **CONTRACTOR** must comply with the *PRDOH CDBG-DR Personally Identifiable Information, Confidentiality, and Nondisclosure Policy*, as found in the CDBG-DR Website (https://cdbg-dr.pr.gov/en/download/personally-identifiable-informationconfidentiality-and-nondisclosure-policy/), which is herein included and made integral part of this Agreement, as it may be updated from time to time

The **CONTRACTOR** shall comply with all State or local requirements concerning the privacy of personal records, consistent with 24 C.F.R. §570.508 (local governments) and §570.490(c) (States).

51. CLOSE-OUT

The SUBRECIPIENT's obligation to PRDOH shall not end until all close-out requirements are completed. Activities during this close-out period may include, but are not limited to: making final payments, disposing of program assets (including the return of all unused materials, equipment, unspent cash advances, program income balances, and accounts receivable to the PRDOH), properly addressing Program Income (as that term is defined in Section VI (A)(19) of the HUD Notice 83 FR 5844, 5856 (February 9, 2018, as may be amended by HUD)), balances, and accounts receivable to the PRDOH), determining the custodianship of records, and the SUBRECIPIENT certification of compliance with the terms of this Agreement. Notwithstanding the foregoing, the terms of this Agreement shall remain in effect during any period that the SUBRECIPIENT has control over CDBG-DR/MIT funds, including Program Income.

Notwithstanding the terms of 2 C.F.R. §200.343, upon the expiration of this Agreement, the SUBRECIPIENT shall transfer to the recipient any CDBG-DR/MIT funds on hand at the time of expiration and any accounts receivable attributable to the use of CDBG-DR/MIT funds, further, any real property under the SUBRECIPIENT's control that was acquired or improved in whole or in part with CDBG-DR/MIT funds (including CDBGDR/MIT funds provided to the SUBRECIPIENT in the form of a loan) shall be treated in accordance with 24 C.F.R. § 570.503(b)(7).

52. AUDITS AND INSPECTIONS

All **CONTRACTOR** records with respect to any matters covered by this Agreement shall be made available to PRASA, the PRDOH, HUD, and the Comptroller General of the United States, or any of their authorized representatives, at any time during normal business hours, as often as deemed necessary, to audit, examine, and make excerpts or transcripts of all relevant data. Any deficiencies noted in audit reports must be fully cleared by the **CONTRACTOR** within **thirty (30) days** after receipt by the **CONTRACTOR**. Failure of the **CONTRACTOR** to comply with the above audit requirements shall constitute a violation of this Agreement and may result in the withholding of future payments and/or termination.

53. SINGLE AUDIT

The SUBRECIPIENT must be audited as required by 2 C.F.R. Part 200, Subpt. F, when the SUBRECIPIENT's Federal awards expended during the respective fiscal year equaled or exceeded the threshold set forth in 2 C.F.R. §200.501 (Audit requirements). Once said threshold is reached or exceeded, the SUBRECIPIENT shall notify the PRDOH and shall report that event in the corresponding monthly progress report, as provided in Part VI - Performance, Monitoring, and Reporting, Subpart B (Reporting) of this Agreement.

The SUBRECIPIENT shall procure or otherwise arrange for the audit to be conducted for that year, as required in 2 C.F.R. §200.501(a)-(b); moreover, that it is properly performed and submitted when due in accordance with provisions that include but are not limited to those set forth in 2 C.F.R. §200.512 (Report submission), as stated in 2 C.F.R. §200.508(a) (Auditee responsibilities).

Among other relevant provisions, the SUBRECIPIENT shall comply with: (a) the Electronic submission of data and reports to the Federal Audit Clearinghouse (FAC) (2 C.F.R. §200.512(d)) and; (b) ensuring that reports do not include protected personally identifiable information as set forth in 2 C.F.R. §200.512(a)(2)).

54. INSPECTIONS AND MONITORING

The **CONTRACTOR** shall permit PRASA, PRDOH and auditors to have access to the **CONTRACTOR**'s records and financial statements as necessary for PRASA and PRDOH to meet the requirements of 2 C.F.R. Part 200.

55. CORRECTIVE ACTIONS

The PRDOH may issue management decisions and may consider taking enforcement actions including but not limited to corrective actions in 24 C.F.R. §570.910 if noncompliance is detected during monitoring and audits. The PRDOH may require the SUBRECIPIENT to take timely and appropriate action on all deficiencies pertaining to the Federal award provided to the SUBRECIPIENT from the pass-through entity detected through audits, on-site reviews, and other means. A timely and appropriate action shall be predicated on reasonable standard wherein the SUBRECIPIENT utilizes all available

resources to correct the noted issue or issues. In response to audit deficiencies or other findings of noncompliance with this Agreement, the PRDOH may impose additional conditions on the use of the CDBG-DR/MIT funds to ensure future compliance or provide training and technical assistance as needed to correct noncompliance.

56. PROCUREMENT AND CONTRACTOR OVERSIGHT

The SUBRECIPIENT shall ensure that every process of procurement of goods and services that may involve the use of CDBG-DR/MIT funds for local match adheres to the same procurement requirements that apply to procurements performed by local governments using Federal Emergency Management Agency's Public Assistance Program funds ("FEMA PA funds"). Therefore, the SUBRECIPIENT must comply with the federal procurement rules and regulations found in 2 C.F.R. §200.317, §200.322 and §200.326 and in accordance with the PRASA's Organic Law,

The SUBRECIPIENT shall maintain oversight of all activities under this Agreement and shall ensure that for any procured contract or Agreement, as applicable, its contractors perform according to the terms and conditions of the procured contracts or Agreements, and the terms and conditions of this Agreement.

PRDOH must obtain and maintain records to document how the procurement performed by the SUBRECIPIENT complied with FEMA PA procurement requirements, as amended from time to time. Additionally, if not completed by FEMA, PRDOH may need to take additional steps to evaluate the cost or price of the goods or services procured by the SUBRECIPIENT. To enable PRDOH to perform these activities, the SUBRECIPIENT agrees to make available to PRDOH any and all documentation related to such performed procurement processes upon request.

57. NONDISCRIMINATION

The **CONTRACTOR** shall comply with 24 C.F.R. Part 6, which implements the provisions of Section 109 of Title I of the Housing and Community Development Act of 1974, 42 U.S.C. §5309. Section 109 provides that no person in the United States shall, on the ground of race, color, national origin, religion, or sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with Federal financial assistance.

The **CONTRACTOR** shall adhere to the prohibitions against discrimination on the basis of age under the Age Discrimination Act of 1975, 42 U.S.C. §§6101-6107 (**Age Discrimination Act**) and the prohibitions against discrimination on the basis of disability under Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. §794 (Section 504). Section 109 of the Housing and Community Development Act of 1974 makes these requirements applicable to programs or activities funded in whole or in part with CDBG-DR/MIT funds. Thus, the **CONTRACTOR** shall comply with regulations of 24 C.F.R. Part 8, which implement Section 504 for HUD programs, and the regulations of 24 C.F.R. Part 146, which implement the Age Discrimination Act for HUD programs.

The **CONTRACTOR** shall ensure that all CDBG-DR/MIT activities conducted by itself or its contractors are consistent with the applicable federal and local legal provisions, regulations, and policies that prohibit discrimination on the basis of race, creed, color, national origin, religion, sex, disability, familial status, actual or perceived sexual orientation or gender identity, marital status, or age, as established in the CDBG-DR Fair Housing and Equal Opportunity (FHEO) Policy for CDBG-DR Programs.[1]

58. ARCHITECTURAL BARRIERS ACT AND THE AMERICANS WITH DISABILITIES ACT

The **CONTRACTOR** shall ensure that its Activities are consistent with requirements of Architectural Barriers Act and the Americans with Disabilities Act.

The Architectural Barriers Act of 1968, 42 U.S.C. §§4151-4156, requires certain Federal and Federally funded buildings and other facilities to be designed, constructed, or altered in accordance with standards that ensure accessibility to, and use by, physically handicapped people. A building or facility designed, constructed, or altered with funds allocated or reallocated under this part after December 11, 1995, and that meets the definition of "residential structure" as defined in 24 C.F.R. § 40.2 or the description of "facilities" in 41 C.F.R. § 102–76.60 are subject to the requirements of the Architectural Barriers Act of 1968 and shall comply with the Uniform Federal Accessibility Standards (appendix A to 24 C.F.R. Part 40 for residential structures, and 41 C.F.R. Subt. C, Ch. 102, for general type buildings).

The Americans with Disabilities Act of 1990 ("ADA"), 42 U.S.C. § 12101 *et seq.* (**ADA**), provides comprehensive civil rights to individuals with disabilities in the areas of employment, public accommodations, State and local government services, and telecommunications. It further provides that discrimination includes a failure to design and construct facilities for first occupancy no later than January 26, 1993, that are readily accessible to and usable by individuals with disabilities. Further, the ADA requires the removal of architectural barriers and communication barriers that are structural in nature in existing facilities, where such removal is readily achievable—that is, easily accomplishable and able to be carried out without much difficulty or expense.

The **CONTRACTOR** agrees to comply with the non-discrimination in employment and contracting opportunities laws, regulations, and executive orders referenced in 24 C.F.R. §570.607, as revised by Executive Order 13279. The applicable non- discrimination provisions in Section 109 of the HCDA are still applicable.

59. TITLE VI OF THE CIVIL RIGHTS ACT OF 1964 (24 C.F.R. PART 1)

1) <u>General Compliance:</u>

[1] Follow the link for document access at the CDBG-DR Website: https://cdbg-dr.pr.gov/en/download/fairhousingandequal-opportunity-fheo-policy-for-cdbg-dr-programs/.

The **CONTRACTOR** shall comply with the requirements of Title VI of the Civil Rights Act of 1964, 42 U.S.C. §2000d *et seq.*, and 24 C.F.R. §570.601 and §570.602. No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity funded by this Agreement. The specific nondiscrimination provisions at 24 C.F.R. §1.4 apply to the use of these funds. The **CONTRACTOR** shall not intimidate, threaten, coerce, or discriminate against any person for the purpose of interfering with any right or privilege secured by Title VI of the Civil Rights Act of 1964 or 24 C.F.R. Part 1, or because he or she has made a complaint, testified, assisted, or participated in any manner in an investigation, proceeding, or hearing under 24 C.F.R. Part 1. The identity of complainants shall be kept confidential except to the extent necessary to carry out the purposes of 2 C.F.R. Part 1, including the conduct of any investigation, hearing, or judicial proceeding arising thereunder.

2) **Assurances and Real Property Covenants:**

As a condition to the approval of this Agreement and the extension of any Federal financial assistance, the **CONTRACTOR** assures that the program or activities described in this Agreement shall be conducted and the housing, accommodations, facilities, services, financial aid, or other benefits to be provided shall be operated and administered in compliance with all requirements imposed by or pursuant to this 2 C.F.R. Part 1.

If the Federal financial assistance under this Agreement is to provide or is in the form of personal property or real property or interest therein or structures thereon, the **CONTRACTOR**'s assurance herein shall obligate the **CONTRACTOR** or, in the case of a subsequent transfer, the transferee, for the period during which the property is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits, or for as long as the recipient retains ownership or possession of the property, whichever is longer. In all other cases the assurance shall obligate the **CONTRACTOR** for the period during which Federal financial assistance is extended pursuant to the contract or application.

This assurance gives the PRDOH and the United States a right to seek judicial enforcement of the assurance and the requirements on real property.

In the case of real property, structures or improvements thereon, or interests therein, acquired with Federal financial assistance under this Agreement or acquired with CDBG-DR/MIT funds and provided to the **CONTRACTOR** under this Agreement, the instrument effecting any disposition by the **CONTRACTOR** of such real property, structures or improvements thereon, or interests therein, shall contain a covenant running with the land assuring nondiscrimination for the period during which the real property is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits.

If the **CONTRACTOR** receives real property interests or funds or for the acquisition of real property interests under this Agreement, to the extent that rights to space on, over, or under any such property are included as part of the program receiving such assistance, the nondiscrimination requirements of this part 1 shall extend to any facility located wholly or in part in such space.

3) Women- and Minority-Owned Businesses (W/MBE)

The **CONTRACTOR** shall take the affirmative steps listed in 2 C.F.R. §200.321(b)(1) through (6) to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible when the **CONTRACTOR** procures property or services under this Agreement. As used in this Agreement, the terms "small business" means a business that meets the criteria set forth in Section 3(a) of the Small Business Act, as amended, 15 U.S.C. §632(a), and "minority and women's business enterprise" means a business at least fifty-one (51) percent owned and controlled by minority group members or women. For the purpose of this definition, "minority group members" are Afro-Americans, Spanish-speaking, Spanish surnamed or Spanish heritage Americans, Asian- Americans, and American Indians. The **CONTRACTOR** may rely on written representations by businesses regarding their status as minority and female business enterprises in lieu of an independent investigation.

In compliance with the CDBG-DR/MIT Minority and Women-Owned Business Enterprise Policy (M/WBE Policy), the **CONTRACTOR** shall complete a utilization plan to identify how they plan on successfully achieving the contracting goals for MBE and WBE's. **CONTRACTOR** shall also complete quarterly reporting to provide information on contracting opportunities and payouts provided to WBE or MBE contractors or subcontractors. **CONTRACTOR** shall also document their efforts and submit those to PRASA on a quarterly basis. See the M/WBE Policy, as found in the CDBG-DR Website (www.cdbg-dr.pr.gov) which is herein included and made integral part of this Agreement, as it may be updated from time to time.

4) Notifications

The **CONTRACTOR** will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of the **CONTRACTOR**'s commitments hereunder, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

5) Equal Employment Opportunity and Affirmative Action (EEO/AA) Statement

The **CONTRACTOR** shall, in all solicitations or advertisements for employees placed by or on behalf of the **CONTRACTOR**, state that it is an Equal Opportunity or Affirmative Action employer.

60. LABOR STANDARDS

The **CONTRACTOR** shall comply with the in labor standards in Section 110 of the Housing and Community Development Act of 1974, 42 U.S.C. §5310, and ensure that all laborers and mechanics employed by contractors or subcontractors in the performance of construction work financed in whole or in part with assistance received under this Agreement shall be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis Bacon Act, as amended (40 U.S.C. §3141, et seq.), and 29 C.F.R. Parts 1, 3, 5, 6, and 7, provided, that this requirement shall apply to the rehabilitation of residential property only if such property contains not less than eight (8) units. The wage rates are attached hereby as **Appendix B.** The wage rates are constantly changing. It is the sole responsibility of the **CONTRACTOR** and its subcontractors to pay the current applicable wages in Appendix B and to be aware of any changes to the wage rates hereto, to implement such changes and to ensure subcontracts terms and conditions are modified as necessary.

Wage determinations may be obtain from the U.S. Department of Labor's web site, https://sam.gov or www.dol.gov.

The **CONTRACTOR** agrees to comply with 18 U.S.C. §874 and it's implementing regulations of the U.S. Department of Labor at 29 C.F.R. Part 3 and Part 5. The **CONTRACTOR** shall maintain documentation that demonstrates compliance with applicable hour and wage requirements. Such documentation shall be made available to PRASA for review upon request.

The **CONTRACTOR** is prohibited from using funds provided herein or personnel employed in the administration of the program for: political activities; inherently religious activities; lobbying; political patronage; or nepotism activities.

The **CONTRACTOR** shall comply with the Fair Labor Standards Act (FLSA), 29 U.S.C. § 201-219, which establishes minimum wage, overtime pay, recordkeeping, and child labor standards affecting full-time and part-time workers in the private sector and in Federal, State, and local governments. FLSA is hereby attached as **Appendix C.** The FLSA may be amended from time to time. It is the sole responsibility of the **CONTRACTOR** and its subcontractors to be aware of any changes hereto, to amend and implement such changes and to ensure subcontracts terms and conditions are modified as necessary, if any.

61. CONDUCT

1) Contracts

a. Monitoring: As applicable, the SUBRECIPIENT will monitor all contracted services on a regular basis to assure contract compliance. Results of monitoring efforts shall be

summarized in written reports and supported with documented evidence of follow-up actions taken to correct areas of noncompliance.

b. Content: The SUBRECIPIENT shall cause all of the provisions of the SRA in its entirety to be included in and made a part of any contract executed in the performance of this Agreement, as applicable.
c. Selection Process: The SUBRECIPIENT shall ensure that all contracts awarded after the execution of this Agreement and in the performance of such, follow the procurement policies and procedures described in the paragraph 56 (Procurement and Contractor Oversight) of this Exhibit.
d. Notification: The SUBRECIPIENT shall notify and provide a copy of any and all contracts related to this Agreement and CDBG-DR/MIT funds to the Contract Administration Area of the PRDOH CDBG-DR/MIT Legal Division within **three (3) days** of its execution.

2) Conflict of Interest

The SUBRECIPIENT agrees to abide by the provisions of 2 C.F.R. Part 200, as applicable, and 24 C.F.R. §570.611, which include (but are not limited to) the following:

a. It is presumed that the SUBRECIPIENT is subject to state and local ethic laws and regulations related to the conduct of its officers, employees or agents engaged in the award and administration of this Agreement.
b. In the event the SUBRECIPIENT is not, the SUBRECIPIENT shall maintain written standards of conduct governing the performance of its employees engaged in the award and administration of this Agreement. No employee, officer, or agent shall participate in the selection, award, or administration of a contract supported by Federal funds if a real or apparent conflict of interest would be involved. Such a conflict would rise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of the Parties indicated herein, has a financial or other interest in the firm selected for an award. The officers, employees, and agents of the recipient shall neither solicit nor accept gratuities, favors, or anything of monetary value from contractors, or Parties to sub Agreements. However, recipients may set standards for situations in which the financial interest is not substantial, or the gift is an unsolicited item of nominal value. The standards of conduct shall provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents of the recipient.
c. No covered persons who exercise or have exercised any functions or responsibilities with respect to CDBG-DR/MIT assisted activities, or who are in a position to participate in a decision-making process or gain inside information with regard to such activities, may obtain a financial interest in any contract, or have a financial interest in any contract, subcontract, or Agreement with respect to the CDBG-DR/MIT assisted activity, or with respect to the proceeds from the CDBG-DR/MIT assisted activity, either for themselves or those with whom they have business or immediate family ties, during their tenure or for a period of **one (1) year** thereafter. For purposes of this paragraph, a "covered person" includes any person who is an

employee, agent, consultant, officer, or elected or appointed official of the PRDOH, the SUBRECIPIENT, or any designated public agency.

d. Clause of Governmental Ethics Certification of Absence of Conflict of Interests - The **CONTRACTOR** certifies that: (1) No public servant of PRASA has pecuniary interest in this contract. (2) No public servant of PRASA has solicited or accepted, directly or indirectly, for him (her), for any member of his family unit or for any other person, gifts, allowances, favors, services, donations loans or any other thing of monetary value. (3) No public servant of PRASA related to this transaction, asked for or accepted any good of economic value, from any person or organization as payment for the duties and responsibilities of his employment. (4) No public servant of PRASA has solicited, directly or indirectly, for him (her), any member of his family unit, neither for any other person, business or organization, any good of economic value, including gifts, loans, promises, favors or services in exchange for his(her) obligations and performance of said public employment, to influence or favor any organization. (5) No public servant of PRASA has kinship relationship, within the fourth degree of consanguinity and second by affinity, with nobody in public employment that has faculty to influence and to participate in the institutional decisions of this Agreement.

62. CITIZEN GRIEVANCES

If the **CONTRACTOR** receives any complaint or grievance, it shall refer said complaint or grievance immediately to PRASA.

63. TECHNICAL ASSISTANCE AND TRAININGS

The **CONTRACTOR** shall attend any and all technical assistance and/or trainings that PRASA and the PRDOH requires from time to time at its discretion. Failure to attend may be considered as cause for termination.

64. DISASTER RELIEF ACCOUNT

Pursuant to Federal Register Vol. 85, No. 17, 85 FR 4681 (January 27, 2020), PRDOH must comply with an additional requirement imposed by an Order of October 26, 2017, granted by the United States District Court for the District of Puerto Rico, as may be amended from time to time. As required by the Order, grant funds or disaster relief funds received by the Commonwealth of Puerto Rico or other Non-Federal Entities (as defined by 2 C.F.R. § 200.69) shall be deposited solely into a Disaster Relief Account.

As a result thereof, under the terms of the beforementioned Court order and under the conditions of this Agreement, any and all CDBG-DR/MIT funds subawarded by PRDOH to its SUBRECIPIENTs shall be deposited into a new, separate, non-co-mingled, unencumbered account held in the name of the SUBRECIPIENT. The funds shall be used solely for eligible activities. Further, the SUBRECIPIENT shall provide and make available to PRDOH any and all documentation related to such account.

65. ADDITIONAL SPECIFIC CONDITIONS

Notwithstanding the special conditions established in this Agreement and its exhibits, in accordance with 2 C.F.R. §200.208, PRASA reserves the right and authority to impose additional specific conditions under any of the following circumstances:

a) At the PRDOH's sole discretion when PRASA and PRDOH finds that **CONTRACTOR** has a history of failure to comply with the general or specific terms and conditions applicable to the CDBG-DR and/or CDBG-MIT funds allocated under this Agreement.
b) When **CONTRACTOR** fails to meet expected performance goals under this Agreement.
c) When **CONTRACTOR** poses an increased risk for noncompliance based on factors including, but not limited to, financial stability, quality of management systems, history of performance under Federal awards, history of timeliness under Federal awards, history of conformance with terms and conditions of previous federal awards, and reports and findings from audits.
d) When, in the PRDOH's sole discretion, such conditions are necessary to ensure timely and compliant performance under the CDBG-DR/MIT Program.

Such additional specific conditions may include but are not limited to, withholding of authority to proceed to the next phase of an otherwise eligible Project, requiring additional detailed financial reports, requiring additional project monitoring, requiring the **CONTRACTOR** to obtain technical or management assistance, establishing additional prior approvals, or any other condition PRASA and PRDOH deems reasonable and necessary to safeguard Federal funds or the PRASA's and PRDOH's interests.

Notice of additional specific conditions shall include, but not be limited to, the nature of the additional requirements, the reason why the additional requirements are being imposed, the nature of the action needed to remove the additional requirement (if applicable), and the time allowed for completion of the actions (if applicable).

66. OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSH ACT)

The **CONTRACTOR** shall comply with the Occupational Safety and Health Act of 1970 (OSH Act) as supplemented by the Department of Labor regulations. This Act created the Occupational Safety and Health Administration (OSHA). OSHA sets and enforces protective standards of safety and health in the workplace. Under the OSH Act, employers have a responsibility to provide a safe workplace.

Employers must comply with the 29 CFR 1910 General Obligations Clause of the OSH Act. This clause requires employers to maintain their workplaces free from serious recognized hazards. This includes the adoption of safety and health guidelines and the subsequent training of the employer's workforce in these.

The **CONTRACTOR** whose Scope of Work includes construction activities must comply with the General Clauses, and also with provisions of 29 CFR 1926 "Construction Health and Safety Regulations". It shall be a condition of any contract for construction, alteration

and/or repair, including painting and decorating, that no contractor or subcontractor for any part of the contract work shall require any worker or mechanic employed in the performance of the contract to work in an environment or in unhealthy, hazardous or dangerous working conditions to their health or safety.

67. INDEPENDENT CONTRACTOR

Nothing contained in this Agreement is intended to, or shall be construed in any manner, as creating or establishing the relationship of employer/employee between the Parties, or with PRDOH. The **CONTRACTOR** shall at all times remain an "independent contractor" with respect to the efforts to be performed under this Agreement. PRASA shall be exempt from payment of all Unemployment Compensation, FICA, retirement, life and/or medical insurance and Workers' Compensation Insurance, as the Subrecipient is an independent entity.

68. ADDITIONAL CLAUSES REQUIRED

The **CONTRACTOR** must comply with the following clauses, and must include them in every subcontract that it may use to carry out the work for the benefit of PRASA:

a) The work performed by the **CONTRACTOR** and subcontractors must be in accordance with the applicable terms of the Agreement between the PRDOH and PRASA;
b) Nothing contained in this contract agreement shall impair the rights of the PRDOH;
c) Nothing contained in this contract will create any contractual relation between the **CONTRACTOR**, subcontractor and the PRDOH;
d) The **Contractor** specifically agrees to be bound by the confidentiality provision regarding Personally Identifiable Information set forth in the Agreement between PRDOH and PRASA and shall include this clause in any subcontract.
e) PRASA will be responsible for ensuring all contract work is performed consistent with federal and state regulations and/or policies to be eligible for reimbursement of the approved work;
f) PRASA will monitor all contracted services on a regular basis to assure contract compliance, and that results of monitoring efforts will be summarized in written reports to PRDOH and supported with documented evidence of follow-up actions taken to correct areas of noncompliance;
g) This contract awarded, for the performance of the services, before mentioned, was awarded on a fair and open competition basis in accordance with applicable procurement requirements;
h) All Federal flow down provisions are included in this agreement per Federal guidelines;
i) The applicable provisions set forth in 2 C.F.R. § 200.101, are part of this contract and are incorporated by reference.

69. ACTIVE REGISTRATION ON SAM.GOV

The **CONTRACTOR** must have and maintain an ACTIVE REGISTRATION on the System for Award Management (SAM), and shall renew their registration at least two (2) months before the expiration date.

The debarment and suspension regulations restrict awards, subawards, contracts, and subcontracts with parties that are debarred, suspended, or otherwise excluded, or declared ineligible for participation in federal assistance programs and activities.

END OF DOCUMENT

Appendix A

HUD-4010
Federal Labor Standards Provisions

U.S. Department of Housing and Urban Development
Office of Davis-Bacon and Labor Standards

A. APPLICABILITY

The Project or Program to which the construction work covered by this Contract pertains is being assisted by the United States of America, and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

1. Minimum wages and fringe benefits

I. All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in 29 CFR 5.5(d) and (e), the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of these contract clauses; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under 29 CFR 5.5(a)(1)(iii)) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

II. **Frequently recurring classifications**

A. In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to 29 CFR 5.5(a)(1)(iii), provided that:

1. The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
2. The classification is used in the area by the construction industry; and
3. The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

B. The Administrator will establish wage rates for such classifications in accordance with 29 CFR 5.5(a)(1)(iii)(A)(3). Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

III. **Conformance**

A. The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be

classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
2. The classification is used in the area by the construction industry; and
3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

B. The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

C. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

D. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

E. The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under 29 CFR 5.5 (a)(1)(iii)(C) and (D). The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to 29 CFR 5.5 (a)(1)(iii)(C) or (D) must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

iv. **Fringe benefits not expressed as an hourly rate**
Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

v. **Unfunded plans**
If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in 29 CFR 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

vi. **Interest** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. **Withholding**
   i. **Withholding requirements**
   The U. S. Department of Housing and Urban Development may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in 29 CFR 5.5(a) for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in 29 CFR 5.5(a)(3)(iv), HUD may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
   ii. **Priority to withheld funds**
   The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:
      A. A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
      B. A contracting agency for its reprocurement costs;
      C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
      D. A contractor's assignee(s);
      E. A contractor's successor(s); or
      F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.
3. **Records and certified payrolls**
   i. **Basic record requirements**
      A. **Length of record retention.** All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.
      B. **Information required** Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.
      C. **Additional records relating to fringe benefits.** Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(v) that the wages of any laborer or mechanic include the amount of any

costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

D. **Additional records relating to apprenticeship** Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

ii. **Certified payroll requirements**

A. **Frequency and method of submission** The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to HUD if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system

B. **Information required** The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i)(B), except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.*, the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

C. **Statement of Compliance** Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

1. That the certified payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information and basic records are being maintained under 29 CFR 5.5 (a)(3)(i), and such information and records are correct and complete;
2. That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly

from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

3. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

D. **Use of Optional Form WH-347** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the "Statement of Compliance" required by 29 CFR 5.5(a)(3)(ii)(C).

E. **Signature** The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

F. **Falsification** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

G. **Length of certified payroll retention** The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

iii. **Contracts, subcontracts, and related documents** The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

iv **Required disclosures and access**

A. **Required record disclosures and access to workers** The contractor or subcontractor must make the records required under 29 CFR 5.5(a)(3)(i)–(iii), and any other documents that HUD or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by 29 CFR 5.1, available for inspection, copying, or transcription by authorized representatives of HUD or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

B. **Sanctions for non-compliance with records and worker access requirements** If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to 29 CFR 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

C. **Required information disclosures** Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to HUD if the agency is a party to

the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. **Apprentices and equal employment opportunity**
   i. **Apprentices**
      A. **Rate of pay** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
      B. **Fringe benefits** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.
      C. **Apprenticeship ratio** The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to 29 CFR 5.5(a)(4)(i)(D). Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in 29 CFR 5.5(a)(4)(i)(A), must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.
      D. **Reciprocity of ratios and wage rates** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.
   ii. **Equal employment opportunity** The use of apprentices and journeyworkers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6 **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (11), along with the applicable wage determination(s) and such other clauses or contract modifications as the U.S. Department of Housing and
Urban Development may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

7 **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8 **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9 **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. **Certification of eligibility.**

i. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

ii. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).

iii. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11 **Anti-retaliation** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;

ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;

iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5; or

iv. Informing any other person about their rights under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5.

B. **Contract Work Hours and Safety Standards Act (CWHSSA)**

The Agency Head must cause or require the contracting officer to insert the following clauses set forth in 29 CFR 5.5(b)(1), (2), (3), (4), and (5) in full, or (for contracts covered by the Federal Acquisition Regulation) by reference, in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses must

be inserted in addition to the clauses required by 29 CFR 5.5(a) or 4.6. As used in this paragraph, the terms "laborers and mechanics" include watchpersons and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in 29 CFR 5.5(b)(1) the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in 29 CFR 5.5(b)(1), in the sum of $31 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in 29 CFR 5.5(b)(1).
3. **Withholding for unpaid wages and liquidated damages**

I. **Withholding process** The U.S Department of Housing and Urban Development or the recipient of Federal assistance may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in 29 CFR 5.5(b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

II **Priority to withheld funds** The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

A. A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
B. A contracting agency for its reprocurement costs;
C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
D. A contractor's assignee(s);
E. A contractor's successor(s); or
F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

4. ***Subcontracts.*** The contractor or subcontractor must insert in any subcontracts the clauses set forth in 29 CFR 5.5(b)(1) through (5) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in 29 CFR 5.5(b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss,

due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5 **Anti-retaliation** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in 29 CFR part 5;

ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR part 5;

iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR part 5; or

iv. Informing any other person about their rights under CWHSSA or 29 CFR part 5.

C. **CWHSSA required records clause** In addition to the clauses contained in 29 CFR 5.5(b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by 29 CFR 5.1, the Agency Head must cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made and actual wages paid. Further, the Agency Head must cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.

D. **Incorporation of contract clauses and wage determinations by reference** Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.

E. **Incorporation by operation of law** The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by 29 CFR 5.1 to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

F. HEALTH AND SAFETY

The provisions of this paragraph (F) are applicable where the amount of the prime contract exceeds $100,000.

1. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
2. The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.
3. The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

Appendix B

"General Decision Number: PR20260001 01/02/2026

Superseded General Decision Number: PR20250001

State: Puerto Rico

Construction Type: Building

Counties: Puerto Rico Statewide.

BUILDING CONSTRUCTION (does not include single family homes and apartments up to and including 4 stories).

Modification Number	Publication Date
0	01/02/2026

SUPR1993-001 10/29/1993

	Rates	Fringes
BRICKLAYER	$ 7.25	.42
CARPENTER	$ 7.25	.34
CEMENT MASON/CONCRETE FINISHER	$ 7.25	.31
ELECTRICIAN (Including HVAC control wiring)	$ 7.25	
IRONWORKER	$ 7.25	
Laborer, Unskilled	$ 7.25	
PAINTER	$ 7.25	
PIPEFITTER	$ 7.25	
PLUMBER (Including HVAC work)	$ 7.25	.31
Power equipment operators:		
Cranes	$ 7.25	
Diggers	$ 7.25	
Loaders	$ 7.25	.26
Traxcavator	$ 7.25	
Sheet metal worker (Including HVAC duct work)	$ 7.25	.31
TRUCK DRIVER	$ 7.25	.30

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey

is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260002 01/02/2026

Superseded General Decision Number: PR20250002

State: Puerto Rico

Construction Types: Heavy and Highway

Counties: Adjuntas, Coamo, Culebra, Jayuya, Las Marias, Maricao, Salinas, Santa Isabel, Utuado and Vieques Counties in Puerto Rico.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS.

Modification Number	Publication Date
0	01/02/2026

SUPR2024-001 05/26/1995

	Rates	Fringes
CARPENTER	$ 7.25	.50
CEMENT MASON/CONCRETE FINISHER	$ 7.25	.47
ELECTRICIAN	$ 7.25	.80
IRONWORKER	$ 7.25	
Laborers:		
Laborers (unskilled)	$ 7.25	.43
Pipelayers	$ 7.25	
Line Construction:		
Linemen	$ 7.25	.84
Telephone linemen: Ground & Pole	$ 7.25	
PIPEFITTER	$ 7.25	
PLUMBER	$ 7.25	
Power equipment operators:		
Asphalt Luters	$ 7.25	3.11
Backhoe	$ 8.25	.59
Bulldozer	$ 7.25	.99
Crane	$ 7.25	1.43
Diggers	$ 7.25	
Grader	$ 7.25	1.06
Greaser/Oilers	$ 7.25	
Loaders	$ 7.25	.92
Mechanics	$ 7.25	.76
Paver	$ 7.25	3.15
Roller	$ 7.25	3.14
SCRAPERS:		
18 CY and over	$ 8.10	.59
less than 18 CY	$ 7.80	.59
less than 185 HP	$ 8.00	.59
Screedman	$ 8.80	3.13
TRACTORS:		
185 HP and over	$ 8.10	.59

SCRAPERS

TRUCK DRIVER.....$ 7.25

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this

classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

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The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

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Administrative Review Board
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200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260004 01/02/2026

Superseded General Decision Number: PR20250004

State: Puerto Rico

Construction Type: Highway

County: Aguada County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-007 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.69	0.70
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.85	0.00
LABORER: Common or General	$ 8.56	0.43
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.48	0.80
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14
TRAFFIC CONTROL: Flagger	$ 8.27	0.57

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.17 0.60

TRUCK DRIVER: Pickup Truck.....$ 9.12 0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

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A UAVG rate will be updated once a year, usually in January, to

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END OF GENERAL DECISION
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"General Decision Number: PR20260005 01/02/2026

Superseded General Decision Number: PR20250005

State: Puerto Rico

Construction Type: Highway

County: Aguadilla County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-008 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.69	0.70
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.85	0.00
LABORER: Common or General	$ 8.02	0.42
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.48	0.80
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
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TRAFFIC CONTROL: Flagger	$ 8.27	0.57

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.17 0.60

TRUCK DRIVER: Pickup Truck.....$ 9.12 0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

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A UAVG rate will be updated once a year, usually in January, to

reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

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The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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Wage and Hour Division
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200 Constitution Avenue, N.W.
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END OF GENERAL DECISION
"

"General Decision Number: PR20260006 01/02/2026

Superseded General Decision Number: PR20250006

State: Puerto Rico

Construction Type: Highway

County: Bayam&#65533;n County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-009 05/14/2024

	Rates	Fringes
CARPENTER	$ 9.16	0.75
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 7.92	0.43
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was

updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260007 01/02/2026

Superseded General Decision Number: PR20250007

State: Puerto Rico

Construction Type: Highway

County: Caguas County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-010 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.50	0.50
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 7.96	0.43
OPERATOR:		
Backhoe/Excavator/Trackhoe	$ 11.00	1.22
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$	8.28	0.53
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$	9.81	0.95
TRUCK DRIVER: Dump Truck.....$	9.40	0.85
TRUCK DRIVER: Pickup Truck.....$	9.21	0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was

updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
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d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260008 01/02/2026

Superseded General Decision Number: PR20250008

State: Puerto Rico

Construction Type: Highway

County: Canovanas County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-011 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 7.78	0.43
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

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updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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U.S. Department of Labor

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Washington, DC 20210

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U.S. Department of Labor
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Washington, DC 20210

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U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
"

"General Decision Number: PR20260009 01/02/2026

Superseded General Decision Number: PR20250009

State: Puerto Rico

Construction Type: Highway

County: Carolina County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-012 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 8.83	0.57
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.83	0.77
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

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updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

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State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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U.S. Department of Labor

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Washington, DC 20210

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U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
"

"General Decision Number: PR20260010 01/02/2026

Superseded General Decision Number: PR20250010

State: Puerto Rico

Construction Type: Highway

County: Ciales County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-013 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 7.89	0.47
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was

updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

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Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
"

"General Decision Number: PR20260011 01/02/2026

Superseded General Decision Number: PR20250011

State: Puerto Rico

Construction Type: Highway

County: Moca County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-014 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.69	0.70
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.85	0.00
LABORER: Common or General	$ 8.23	0.43
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.48	0.80
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14
TRAFFIC CONTROL: Flagger	$ 8.27	0.57

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.17 0.60

TRUCK DRIVER: Pickup Truck.....$ 9.12 0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to

reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260012 01/02/2026

Superseded General Decision Number: PR20250012

State: Puerto Rico

Construction Type: Highway

County: Morovis County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-015 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 7.92	0.43
OPERATOR:		
Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

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Union Rate Identifiers

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Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was

updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
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d) an initial conformance (additional classification and rate) determination

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Washington, DC 20210

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Washington, DC 20210.

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END OF GENERAL DECISION
"

"General Decision Number: PR20260013 01/02/2026

Superseded General Decision Number: PR20250013

State: Puerto Rico

Construction Type: Highway

County: Naguabo County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-016 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.54	0.87
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 7.98	0.94
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

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Union Average Rate Identifiers

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A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

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State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

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U.S. Department of Labor

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Washington, DC 20210

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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
"

"General Decision Number: PR20260014 01/02/2026

Superseded General Decision Number: PR20250014

State: Puerto Rico

Construction Type: Highway

County: Naranjito County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-017 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 8.02	0.57
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL:	Flagger.....$	8.28	0.53
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$		9.81	0.95
TRUCK DRIVER:	Dump Truck.....$	9.74	0.61
TRUCK DRIVER:	Pickup Truck.....$	9.21	0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was

updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260015 01/02/2026

Superseded General Decision Number: PR20250015

State: Puerto Rico

Construction Type: Highway

County: Sabana Grande County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-018 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.66
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.64	0.91
LABORER: Common or General	$ 7.82	0.88
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.62	0.73
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14
TRAFFIC CONTROL: Flagger	$ 8.27	0.57

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.17 0.60

TRUCK DRIVER: Pickup Truck.....$ 9.12 0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to

reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260016 01/02/2026

Superseded General Decision Number: PR20250016

State: Puerto Rico

Construction Type: Highway

County: San Juan County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-019 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.81	0.63
CEMENT MASON/CONCRETE FINISHER	$ 8.91	0.53
ELECTRICIAN	$ 8.80	1.01
HIGHWAY/PARKING LOT STRIPING: Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.25	0.38
LABORER: Common or General	$ 8.19	0.58
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.37	0.71
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 8.68	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.25 0.61

TRUCK DRIVER: Pickup Truck.....$ 9.36 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was

updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
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Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

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Wage and Hour Division
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Washington, DC 20210

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Wage and Hour Administrator
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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
"

"General Decision Number: PR20260017 01/02/2026

Superseded General Decision Number: PR20250017

State: Puerto Rico

Construction Type: Highway

County: San Sebastian County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-020 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.69	0.70
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.85	0.00
LABORER: Common or General	$ 7.82	0.88
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.48	0.80
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14
TRAFFIC CONTROL: Flagger	$ 8.27	0.57

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.17 0.60

TRUCK DRIVER: Pickup Truck.....$ 9.12 0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

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A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to

reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
"

"General Decision Number: PR20260018 01/02/2026

Superseded General Decision Number: PR20250018

State: Puerto Rico

Construction Type: Highway

County: Trujillo Alto County in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-021 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 7.71	0.43
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was

updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260019 01/02/2026

Superseded General Decision Number: PR20250019

State: Puerto Rico

Construction Type: Highway

Counties: Aguas Buenas, Aibonito, Arecibo, Barceloneta, Barranquitas, Camuy, Catano, Cayey, Cidra, Comerio, Corozal, Dorado, Florida, Guaynabo, Gurabo, Hatillo, Humacao, Juncos, Las Piedras, Loiza, Manati, Maunabo, Orocovis, Quebradillas, Rio Grande, San Lorenzo, Toa Alta, Toa Baja, Vega Alta, Vega Baja and Yabucoa Counties in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-031 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
HIGHWAY/PARKING LOT STRIPING:		
Laborer	$ 8.25	0.56
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 8.02	0.57
OPERATOR:		
Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25

OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14
TRAFFIC CONTROL: Flagger	$ 8.28	0.53
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper	$ 9.81	0.95
TRUCK DRIVER: Dump Truck	$ 9.40	0.85
TRUCK DRIVER: Pickup Truck	$ 9.21	0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for

the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch

of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260020 01/02/2026

Superseded General Decision Number: PR20250020

State: Puerto Rico

Construction Type: Highway

Counties: Anasco, Isabela, Lares and Rincon Counties in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-032 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.69	0.70
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.85	0.00
LABORER: Common or General	$ 8.10	0.43
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.48	0.80
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14

TRAFFIC CONTROL: Flagger.....$	8.27	0.57
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$	9.81	0.95
TRUCK DRIVER: Dump Truck.....$	9.17	0.60
TRUCK DRIVER: Pickup Truck.....$	9.12	0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260021 01/02/2026

Superseded General Decision Number: PR20250021

State: Puerto Rico

Construction Type: Highway

Counties: Arroyo, Ceiba, Fajardo, Guayama, Luqillo and Patillas Counties in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-033 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.61
CEMENT MASON/CONCRETE FINISHER	$ 8.60	0.47
ELECTRICIAN	$ 8.80	1.22
IRONWORKER, STRUCTURAL	$ 8.25	0.57
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.40	0.61
LABORER: Common or General	$ 8.02	0.57
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.49	0.76
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.65	0.73
OPERATOR: Bulldozer	$ 10.88	0.91
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.88	3.15
OPERATOR: Roller	$ 9.67	3.14

TRAFFIC CONTROL: Flagger.....$ 8.28 0.53

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.40 0.85

TRUCK DRIVER: Pickup Truck.....$ 9.21 0.48

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

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Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

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A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

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?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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Washington, DC 20210

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Wage and Hour Division
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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260022 01/02/2026

Superseded General Decision Number: PR20250022

State: Puerto Rico

Construction Type: Highway

Counties: Cabo Rojo, Lajas and San German Counties in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-034 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.66
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.64	0.91
LABORER: Common or General	$ 8.65	0.75
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.62	0.73
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14

TRAFFIC CONTROL:	Flagger.....$	8.27	0.57
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$		9.81	0.95
TRUCK DRIVER:	Dump Truck.....$	9.17	0.60
TRUCK DRIVER:	Pickup Truck.....$	9.12	0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260023 01/02/2026

Superseded General Decision Number: PR20250023

State: Puerto Rico

Construction Type: Highway

Counties: Guanica, Guayanilla, Penuelas and Yauco Counties in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-035 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.62
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.04	0.66
LABORER: Common or General	$ 7.76	0.68
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.34	0.75
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14

TRAFFIC CONTROL: Flagger.....$	8.27	0.57
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$	9.81	0.95
TRUCK DRIVER: Dump Truck.....$	9.35	0.83
TRUCK DRIVER: Pickup Truck.....$	9.12	0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

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Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

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Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260024 01/02/2026

Superseded General Decision Number: PR20250024

State: Puerto Rico

Construction Type: Highway

Counties: Hormigueros and Mayaguez Counties in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-036 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.66
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 8.64	0.91
LABORER: Common or General	$ 8.30	0.60
OPERATOR: Backhoe/Excavator/Trackhoe	$ 9.62	0.73
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14
TRAFFIC CONTROL: Flagger	$ 8.27	0.57

TRAFFIC CONTROL:
Laborer-Cones/
Barricades/Barrels -
Setter/Mover/Sweeper.....$ 9.81 0.95

TRUCK DRIVER: Dump Truck.....$ 9.17 0.60

TRUCK DRIVER: Pickup Truck.....$ 9.12 0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

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Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260025 01/02/2026

Superseded General Decision Number: PR20250025

State: Puerto Rico

Construction Type: Highway

Counties: Juana Diaz, Ponce and Villalba Counties in Puerto Rico.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0222-003 09/01/2023

	Rates	Fringes
ELECTRICIAN		
Lineperson	$ 45.80	8.05 + 24.5%

SUPR2019-037 05/14/2024

	Rates	Fringes
CARPENTER	$ 8.75	0.62
CEMENT MASON/CONCRETE FINISHER	$ 8.52	0.58
ELECTRICIAN	$ 10.19	1.07
IRONWORKER, STRUCTURAL	$ 8.25	0.59
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 9.04	0.66
LABORER: Common or General	$ 7.25	0.76
OPERATOR: Backhoe/Excavator/Trackhoe	$ 10.34	0.75
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 9.38	0.65
OPERATOR: Bulldozer	$ 10.82	0.90
OPERATOR: Crane	$ 12.11	0.91
OPERATOR: Equipment Greaser (Grease Truck)	$ 9.54	1.15
OPERATOR: Grader/Blade	$ 12.53	1.25
OPERATOR: Mechanic	$ 10.19	0.94
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 10.41	3.15
OPERATOR: Roller	$ 9.31	3.14

TRAFFIC CONTROL: Flagger.....$	8.27	0.57
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$	9.81	0.95
TRUCK DRIVER: Dump Truck.....$	9.35	0.83
TRUCK DRIVER: Pickup Truck.....$	9.12	0.46

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

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Union Average Rate Identifiers

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A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

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?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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d) an initial conformance (additional classification and rate) determination

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U.S. Department of Labor
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Wage and Hour Division
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Washington, DC 20210

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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260035 01/02/2026

Superseded General Decision Number: PR20250035

State: Puerto Rico

Construction Type: Heavy

County: San Juan County in Puerto Rico.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

SUPR2019-001 05/14/2024

	Rates	Fringes
CARPENTER	$ 10.33	0.50
CEMENT MASON/CONCRETE FINISHER	$ 9.00	0.83
ELECTRICIAN	$ 12.00	0.55
LABORER: Common or General	$ 8.48	0.43
LABORER: Pipelayer	$ 7.25	0.33
OPERATOR: Backhoe/Excavator/Trackhoe	$ 11.38	0.94
TRUCK DRIVER: Dump Truck	$ 10.06	1.16

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for

this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
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Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

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"General Decision Number: PR20260036 01/02/2026

Superseded General Decision Number: PR20250036

State: Puerto Rico

Construction Type: Heavy

Counties: Aguada, Aguadilla, Anasco, Cabo Rojo, Hormigueros, Isabela, Juana Diaz, Lajas, Lares, Mayaguez, Moca, Ponce, Rincon, Sabana Grande, San German, San Sebastian and Villalba Counties in Puerto Rico.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0349-004 09/04/2023

	Rates	Fringes
ELECTRICIAN	$ 39.81	14.62

SUPR2019-002 05/14/2024

	Rates	Fringes
CARPENTER	$ 9.21	0.91
CEMENT MASON/CONCRETE FINISHER	$ 9.00	0.83
LABORER: Common or General	$ 8.78	0.43
LABORER: Pipelayer	$ 7.25	0.33
OPERATOR: Backhoe/Excavator/Trackhoe	$ 11.44	0.87
TRUCK DRIVER: Dump Truck	$ 10.21	1.09

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME

refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative

Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260037 01/02/2026

Superseded General Decision Number: PR20250037

State: Puerto Rico

Construction Type: Heavy

Counties: Aguas Buenas, Aibonito, Arecibo, Barceloneta, Barranquitas, Bayam&#65533;n, Caguas, Camuy, Canovanas, Carolina, Catano, Cayey, Ciales, Cidra, Comerio, Corozal, Dorado, Florida, Guaynabo, Gurabo, Hatillo, Humacao, Juncos, Las Piedras, Loiza, Manati, Maunabo, Morovis, Naguabo, Naranjito, Orocovis, Quebradillas, Rio Grande, San Lorenzo, Toa Alta, Toa Baja, Trujillo Alto, Vega Alta, Vega Baja and Yabucoa Counties in Puerto Rico.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

SUPR2019-003 05/14/2024

	Rates	Fringes
CARPENTER	$ 9.10	0.93
CEMENT MASON/CONCRETE FINISHER	$ 9.00	0.83
ELECTRICIAN	$ 12.00	0.55
LABORER: Common or General	$ 8.48	0.43
LABORER: Pipelayer	$ 7.25	0.33
OPERATOR: Backhoe/Excavator/Trackhoe	$ 11.38	0.94
TRUCK DRIVER: Dump Truck	$ 10.06	1.16

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME

refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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Washington, DC 20210

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The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative

Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION
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"General Decision Number: PR20260038 01/02/2026

Superseded General Decision Number: PR20250038

State: Puerto Rico

Construction Type: Heavy

Counties: Arroyo, Guayama and Patillas Counties in Puerto Rico.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

SUPR2019-004 05/14/2024

	Rates	Fringes
CARPENTER	$ 9.21	0.91
CEMENT MASON/CONCRETE FINISHER	$ 9.00	0.83
ELECTRICIAN	$ 12.00	0.55
LABORER: Common or General	$ 8.48	0.43
LABORER: Pipelayer	$ 7.25	0.33
OPERATOR: Backhoe/Excavator/Trackhoe	$ 11.44	0.87
TRUCK DRIVER: Dump Truck	$ 10.21	1.09

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union

whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

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?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were

adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

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Administrative Review Board
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Washington, DC 20210.

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END OF GENERAL DECISION

"

"General Decision Number: PR20260039 01/02/2026

Superseded General Decision Number: PR20250039

State: Puerto Rico

Construction Type: Heavy

Counties: Ceiba, Fajardo and Luquillo Counties in Puerto Rico.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

SUPR2019-005 05/14/2024

	Rates	Fringes
CARPENTER	$ 9.21	0.91
CEMENT MASON/CONCRETE FINISHER	$ 9.00	0.83
ELECTRICIAN	$ 12.00	0.55
LABORER: Common or General	$ 8.48	0.43
LABORER: Pipelayer	$ 7.25	0.33
OPERATOR: Backhoe/Excavator/Trackhoe	$ 11.44	0.87
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Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

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WAGE DETERMINATION APPEALS PROCESS

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Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

"

"General Decision Number: PR20260040 01/02/2026

Superseded General Decision Number: PR20250040

State: Puerto Rico

Construction Type: Heavy

Counties: Guanica, Guayanilla, Penuelas and Yauco Counties in Puerto Rico.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026

ELEC0349-004 09/04/2023

	Rates	Fringes
ELECTRICIAN	$ 39.81	14.62

SUPR2019-006 05/14/2024

	Rates	Fringes
CARPENTER	$ 9.21	0.91
CEMENT MASON/CONCRETE FINISHER	$ 9.00	0.83
LABORER: Common or General	$ 8.78	0.43
LABORER: Pipelayer	$ 7.25	0.33
OPERATOR: Backhoe/Excavator/Trackhoe	$ 11.44	0.87
TRUCK DRIVER: Dump Truck	$ 10.21	1.09

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications

and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

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U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
Wage and Hour Division
WASHINGTON, D.C. 20210

MAR 17 1978

ALL AGENCY MEMORANDUM NO. 130

TO: ALL GOVERNMENT CONTRACTING AGENCIES AND THE DISTRICT OF COLUMBIA

FROM: XAVIER M. VELA
ADMINISTRATOR

SUBJECT: Application Of The Standard Of Comparison "Projects Of A Character Similar" Under The Davis-Bacon And Related Acts

The purpose of this memorandum is to set forth present policies of the Wage and Hour Division with regard to the determination of "projects of a character similar to the contract work" for wage determination purposes. The guidelines contained in the memorandum are to be used by the contracting agencies in selecting the proper schedule(s) of wage rates from the Federal Register and in instructing contractors regarding the application of multiple schedules. This memorandum supersedes A11 Agency Memorandum No. 68 (July 19, 1966).

The Davis-Bacon and related Acts require the Secretary of Labor to determine the prevailing wage rates for corresponding classes of laborers and mechanics on projects in the area which are of a "character similar" to the proposed contract work to which the determination will be applied. The Department's Wage Appeals Board in a decision specifically relating to high-rise apartment buildings (WAB Case No. stated:76-11, dated January 27, 1977) stated:

> The test of whether a project is of a character similar to another project refers to the nature of the project itself in a construction sense, not to whether union or nonunion wages are paid or whether union or nonunion workers are employed. Since the 1935 amendments to the Davis-Bacon Act, the statutory focus has always been on the character of the project itself rather than on who was employed on the project or how much he or she was being paid.

Again, in a decision relating to a water treatment plant project (WAB Case No. 77-20, dated September 30, 1977), the Board stated: "When it is clear from the nature of the project itself in a construction sense that it is to be categorized as either building, heavy, or highway construction it is not necessary to resort to an area practice survey to determine the appropriate categorization of the project."

Generally construction projects are classified as either Building, Heavy, Highway or Residential. 1/ Below are descriptions of these classifications with an illustrative listing of the kinds of projects that are generally included within the classification. Contracting agencies should utilize these descriptions and illustrations in carrying out their responsibilities, to insure a uniform and consistent administration of the Davis-Bacon and related prevailing wage statutes. The advertised and contract specifications should identify as specifically as possible the segments of work to which the schedules will apply. Note, however, that the descriptions and illustrations are guides. Contracting agencies should seek a determination from the Department of Labor on close questions or when the appropriate classification is in dispute. In making this determination where a project does not readily fall within any category, the Department of Labor may consider wages being paid on analogous projects as an indication of the proper category. As stated by the Wage Appeals Board in WAB Case No. 77-23, dated December 30, 1977: "Wages, however, are only one indication. It is also necessary to look at other characteristics of the project, including the construction techniques, the material and equipment being used on the project, the type of skills called for on the project work and other similar factors which would indicate the proper category of construction."

BUILDING CONSTRUCTION

Building construction generally is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. It includes all construction of such structures, the installation of utilities and the installation of equipment, both above and below grade

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1/ Generally, for wage determination purposes, a project consists of all construction necessary to complete a facility regardless of the number of contracts involved so long as all contracts awarded are closely related in purpose, time and place. For example, demolition or site work preparatory to building construction is considered a part of the building project for wage determination purposes. Where a project, such as a water and sewage treatment plant, includes construction items that in themselves would be otherwise classified, a multiple classification may be justified if such construction items are a substantial part of the project. Further, however, a separate classification would not apply if such construction items are merely incidental to the total project to which they are closely related in function. For example, water or sewer line work which is a part of a building project would not generally be separately classified. Where construction is "incidental" in function, 20 percent of project cost is used as a rough guide for determining when construction is also "incidental" in amount to the overall project.

level, as well as incidental grading, utilities and paving. Additionally, such structures need not be "habitable" to be building construction. The installation of heavy machinery and/or equipment does not generally change the project's character as a building.

Examples

Alterations and additions to buildings
Apartment buildings (5 stories and above)
Arenas (enclosed)
Auditoriums
Automobile parking garages
Banks and financial buildings
Barracks
Churches
City halls
Civic centers
Commercial buildings
Court houses
Detention facilities
Dormitories
Farm buildings
Fire stations
Hospitals
Hotels
Industrial buildings
Institutional buildings
Libraries
Mausoleums
Motels
Museums
Nursing and convalescent facilities
Office buildings
Out-patient clinics
Passenger and freight terminal buildings
Police stations
Post offices Power plants
Prefabricated buildings
Remodeling buildings
Renovating buildings
Repairing buildings
Restaurants
Schools
Service stations
Shopping centers
Stores
Subway stations
Theaters
Warehouses Water and sewage treatment plants (buildings only)

Page 4

RESIDENTIAL CONSTRUCTION

Residential projects for Davis-Bacon purposes are those involving the construction, alteration, or repair of single family houses or apartment buildings of no more than four(4) stories in height. This includes all incidental items such as site work, parking areas, utilities, streets and sidewalks.

Examples

Town or row houses
Apartment buildings (4 stories or less)
Single family houses
Mobile home developments
Multi-family houses
Married student housing

HEAVY CONSTRUCTION

Heavy projects are those projects that are not properly classified as either "building", "highway", or "residential". Unlike these classifications, heavy construction is not a homogeneous classification. Because of this catch-all nature, projects within the heavy classification may sometimes be distinguished on the basis of their particular project characteristics, and separate schedules issued. For example, separate schedules may be issued for dredging projects, water and sewer line projects, dams, major bridges, and flood control projects.

Examples

Antenna towers
Bridges (major bridges designed for commercial naviqation) 2/
Breakwaters
Caissons (other than building or highway)
Canals
Channels
Channel cut-offs
Chemical complexes or facilities (other than buildings)
Cofferdams
Coke ovens
Dams
Demolition (not incidental to construction)
Dikes
Docks
Drainage projects

2/ Major bridges contain elements of both heavy and higMy construction. See WAB Case No. 772 (October 21, 1977)

Dredging projects
Electrification projects (outdoor)
Flood control projects
Industrial incinerators (other than building)
Irrigation projects
Jetties
Kilns
Land drainage (not incidental to other construction)
Land leveling (not incidental to other construction)
Land reclamation
Levees
Locks, waterways
Oil refineries (other than buildings)
Pipe lines
Ponds
Pumping stations (prefabricated drop-in units - not buildings)
Railroad construction
Reservoirs
Revetments
Sewage collection and disposal lines
Sewers (sanitary, storm, etc)
Shoreline maintenance
Ski tows
Storage tanks
Swimming pools (outdoor)
Subways (other than buildings)
Tipples
Tunnels
Unsheltered piers and wharves
Viaducts (other than highway)
Water mains
Water-way construction
Water supply lines (not incidental to building)
Water and sewage treatment plants (other than buildings)
Wells

HIGHWAY CONSTRUCTION

Highway projects include the construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction.

Examples

Alleys
Base courses
Bituminous treatments
Bridle paths
Concrete pavement
Curbs
Excavation and embankment (for road construction)

Page 6

Fencing (highway)
Grade crossing elimination (overpasses or underpasses)
Guard rails on highway
Highway signs
Highway bridges (overpasses; underpasses; grade separation)
Medians
Parking lots
Parkways
Resurfacing streets and highways
Roadbeds
Roadways
Runways
Shoulders
Stabilizing courses
Storm sewers incidental to road construction
Street Paving
Surface courses
Taxiways
Trails

In applying these guidelines contracting agencies are reminded that they have the authority only in the first instance to designate the appropriate wage schedule(s) from the Federal Resister, and to determine the application of multiple schedules issued by the Wage and Hour Division in project wage determinations. Any questions regarding the application of the guidelines set forth in this memorandum to a particular project or any disputes regarding the application of the wage schedules are to be referred to the Wage and Hour Division for resolution, and the instructions of the Wage and Hour Division are to be observed in all instances. Furthermore, where multiple schedules are issued by the Wage and Hour Division, they must be utilized in the contract specifications unless the agency requests and receives a change in the wage determination from the Wage and Hour Division. To ensure that appropriate schedules are issued, contracting agencies are advised to provide the Wage and Hour Division in their requests for wage determinations with a sufficiently specific description of the project to be able to determine its character.

U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
Wage and Hour Division
WASHINGTON, D.C. 20210

JUL 14 1978

ALL AGENCY MEMORANDUM NO. 131

TO: ALL GOVERNMENT CONTRACTING AGENCIES AND THE DISTRICT OF COLUMBIA

FROM: XAVIER M. VELA
ADMINISTRATOR

SUBJECT: Clarification of All Agency Memorandum No. 130

The purpose of this memorandum is to clarify Memorandum No. 130, dated March 17, 1978. Although the Wage and Hour Division has received a positive reaction from most contracting agencies who work regularly with the issues raised, some questions have arisen over specific aspects of the memorandum.

Memorandum No. 130 is intended to be a guide to categories of projects in a construction sense and is to be applied uniformly by the contracting agencies in the absence of specific direction on the wage determination or advice by the Wage and Hour Division. However, the Wage and Hour Division is aware that in some circumstances the category of a project may appear to be unclear or a literal application of the guidelines may be inappropriate. For example, questions frequently arise over pumping stations, which may vary greatly in sophistication and construction techniques. Therefore, if the contracting agency has any questions regarding application of the guidelines in a specific case, or if a question is raised with the agency by interested parties, the issue of application of the wage rate schedules should be referred to the Wage and Hour Division. This referral should include a complete description of the project, any evidence available of area practice regarding wages paid on similar projects, comments by interested parties which may have been submitted to the agency, and- the agency's recommendation. Where the nature of the project in a construction sense is not clear, area practice regarding wages paid will be taken into consideration together with other factors such as construction techniques and classifications of workers required on the project. See WAB Case No. 77-23 (December 30, 1977).

Questions have also arisen regarding the circumstances in which multiple schedules of wage rates are issued for a project which includes construction items that in themselves would be

different categories of construction. Because of the complexities in application of multiple schedules, the contracting agency should consult with the Wage and Hour Division whenever it appears that more than one schedule of rates is appropriate for a project, unless the wage decision(s) as issued indicates that multiple schedules are applicable.

Generally, multiple schedules are issued if the construction items are substantial in relation to project cost -- more than approximately 20 percent. Only one schedule is issued if construction items are "incidental" in function to the over-all character of a project (e.g. paving of parking lots or an access road on a building project), and if there is not a substantial amount of construction in the second category. Note, however, that 20 percent is a rough guide. For example, when a project is very large, items of work of a different character may be sufficiently substantial to warrant a separate schedule even though these items of work do not specifically amount to 20 percent of the total project cost.

Although the example given is that of incidental paving and utilities, the same principles are applied to other categories, such as building construction on a heavy or highway project. Thus, in a recent case, the Wage and Hour Division deleted the building schedule when it learned that a small building under a contract primarily for runway construction was approximately 4 percent of project cost. Another example of general interest is the applicability of the building schedule to a building in a rest area of a highway. In this situation, applying the principles of MARTA, WAB Case No. 75-5, for extensive projects, the project for comparison purposes is the rest area itself, rather than the entire highway.

These principles regarding incidental construction are not in conflict with the Wage and Hour Division's recognition in certain circumstances (WAB Case No. 77-19) of a clearly established practice of paying different wage rates on specific portions of building projects. For example, different rates may be paid for incidental paving and utilities than are paid in the construction of buildings on building projects. These projects are building projects, and the wage rates issued by the Wage and Hour Division for incidental paving and utilities reflect wages paid on such work on building projects.

Contracting agencies are reminded of their responsibility to advise contractors on the application of multiple wage schedules issued by the Wage and Hour Division or obtained by the agency from the Federal Register. If any questions arise regarding application of the schedules to the project in accordance with these guidelines, or if it appears that a

wage schedule may have been issued in error, a ruling should be requested from the Wage and Hour Division. On these issues, as in all other matters in the administration of the Davis-Bacon and related acts, we will continue to work cooperatively with the contracting agencies. For convenience, Memorandum No. 130 is attached.

Attachment

Appendix C

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FAIR LABOR STANDARDS ACT OF 1938

[As Amended Through P.L. 117–328, Enacted December 29, 2022]

[Currency: This publication is a compilation of the text of Chapter 676 of the 75th Congress. It was last amended by the public law listed in the As Amended Through note above and below at the bottom of each page of the pdf version and reflects current law through the date of the enactment of the public law listed at https://www.govinfo.gov/app/collection/comps/]

[Note: While this publication does not represent an official version of any Federal statute, substantial efforts have been made to ensure the accuracy of its contents. The official version of Federal law is found in the United States Statutes at Large and in the United States Code. The legal effect to be given to the Statutes at Large and the United States Code is established by statute (1 U.S.C. 112, 204).]

AN ACT To provide for the establishment of fair labor standards in employments in and affecting interstate commerce, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Fair Labor Standards Act of 1938."

[29 U.S.C. 201] Enacted June 25, 1938, ch. 676, sec. 1, 52 Stat. 1060.

FINDING AND DECLARATION OF POLICY

SEC. 2. (a) The Congress hereby finds that the existence, in industries engaged in commerce or in the production of goods for commerce, of labor conditions detrimental to the maintenance of the minimum standard of living necessary for health, efficiency, and general well-being of workers (1) causes commerce and the channels and instrumentalities of commerce to be used to spread and perpetuate such labor conditions among the workers of the several States; (2) burdens commerce and the free flow of goods in commerce; (3) constitutes an unfair method of competition in commerce; (4) leads to labor disputes burdening and obstructing commerce and the free flow of goods in commerce; and (5) interferes with the orderly and fair marketing of goods in commerce. The Congress further finds that the employment of persons in domestic service in households affects commerce.

(b) It is hereby declared to be the policy of this Act, through the exercise by Congress of its power to regulate commerce among the several States and with foreign nations, to correct and as rapidly as practicable to eliminate the conditions above referred to in such industries without substantially curtailing employment or earning power.

[29 U.S.C. 202] Enacted June 25, 1938, ch. 676, sec. 2, 52 Stat. 1060; amended October 26, 1949, ch. 736, sec. 2, 63 Stat. 910; amended April 8, 1974, P.L. 93–259, sec. 7(a), 88 Stat. 62.

AUTHENTICATED U.S. GOVERNMENT INFORMATION GPO

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DEFINITIONS

SEC. 3. As used in this Act—

(a) "Person" means an individual, partnership, association, corporation, business trust, legal representative, or any organized group of persons.

(b) "Commerce" means trade, commerce, transportation, transmission, or communication among the several States or between any State and any place outside thereof.

(c) "State" means any State of the United States or the District of Columbia or any Territory or possession of the United States.

(d) "Employer" includes any person acting directly or indirectly in the interest of an employer in relation to an employee and includes a public agency, but does not include any labor organization (other than when acting as an employer) or anyone acting in the capacity of officer or agent of such labor organization.

(e)(1) Except as provided in paragraphs (2), (3), and (4), the term "employee" means any individual employed by an employer.

(2) In the case of an individual employed by a public agency, such term means—

(A) any individual employed by the Government of the United States—

(i) as a civilian in the military departments (as defined in section 102 of title 5, United States Code),

(ii) in any executive agency (as defined in section 105 of such title),

(iii) in any unit of the judicial branch of the Government which has positions in the competitive service,

(iv) in a nonappropriated fund instrumentality under the jurisdiction of the Armed Forces,

(v) in the Library of Congress, or

(vi) the Government Printing Office;

(B) any individual employed by the United States Postal Service or the Postal Rate Commission; and

(C) any individual employed by a State, political subdivision of a State, or an interstate governmental agency, other than such an individual—

(i) who is not subject to the civil service laws of the State, political subdivision, or agency which employs him; and

(ii) who—

(I) holds a public elective office of that State, political subdivision, or agency,

(II) is selected by the holder of such an office to be a member of his personal staff,

(III) is appointed by such an officeholder to serve on a policymaking level,

(IV) is an immediate adviser to such an officeholder with respect to the constitutional or legal powers of his office, or

(V) is an employee in the legislative branch or legislative body of that State, political subdivision, or agency and is not employed by the legislative library of such State, political subdivision, or agency.

(3) For purposes of subsection (u), such term does not include any individual employed by an employer engaged in agriculture if such individual is the parent, spouse, child, or other member of the employer's immediate family.

(4)(A) The term "employee" does not include any individual who volunteers to perform services for a public agency which is a State, a political subdivision of a State, or an interstate governmental agency, if—

(i) the individual receives no compensation or is paid expenses, reasonable benefits, or a nominal fee to perform the services for which the individual volunteered; and

(ii) such services are not the same type of services which the individual is employed to perform for such public agency.

(B) An employee of a public agency which is a State, political subdivision of a State, or an interstate governmental agency may volunteer to perform services for any other State, political subdivision, or interstate governmental agency, including a State, political subdivision or agency with which the employing State, political subdivision, or agency has a mutual aid agreement.

(5) The term "employee" does not include individuals who volunteer their services solely for humanitarian purposes to private non-profit food banks and who receive from the food banks groceries.

(f) "Agriculture" includes farming in all its branches and among other things includes the cultivation and tillage of the soil, dairying, the production, cultivation, growing, and harvesting of any agricultural or horticultural commodities (including commodities defined as agricultural commodities in section 15(g) of the Agricultural Marketing Act, as amended), the raising of livestock, bees, fur-bearing animals, or poultry, and any practices (including any forestry or lumbering operations) performed by a farmer or on a farm as an incident to or in conjunction with such farming operations, including preparation for market, delivery to storage or to market or to carriers for transportation to market.

(g) "Employ" includes to suffer or permit to work.

(h) "Industry" means a trade, business, industry, or other activity, or branch or group thereof, in which individuals are gainfully employed.

(i) "Goods" means goods (including ships and marine equipment), wares, products, commodities, merchandise, or articles or subjects of commerce of any character, or any part or ingredient thereof, but does not include goods after their delivery into the actual physical possession of the ultimate consumer thereof other than a producer, manufacturer, or processor thereof.

(j) "Produced" means produced, manufactured, mined, handled, or in any manner worked on in any State; and for the purposes of this Act an employee shall be deemed to have been engaged in the production of goods if such employee was employed in producing, manufacturing, mining, handling, transporting, or in any other manner working on such goods, or in any closely related process or occupation directly essential to the production thereof, in any State.

(k) "Sale" or "sell" includes any sale, exchange, contract to sell, consignment for sale, shipment for sale, or other disposition.

(l) "Oppressive child labor" means a condition of employment under which (1) any employee under the age of sixteen years is employed by an employer (other than a parent or a person standing in place of a parent employing his own child or a child in his custody under the age of sixteen years in an occupation other than manufacturing or mining or an occupation found by the Secretary of Labor to be particularly hazardous for the employment of children between the ages of sixteen and eighteen years or detrimental to their health or well-being) in any occupation, or (2) any employee between the ages of sixteen and eighteen years is employed by an employer in any occupation which the Secretary of Labor shall find and by order declare to be particularly hazardous for the employment of children between such ages or detrimental to their health or well-being; but oppressive child labor shall not be deemed to exist by virtue of the employment in any occupation of any person with respect to whom the employer shall have on file an unexpired certificate issued and held pursuant to regulations of the Secretary of Labor certifying that such person is above the oppressive child labor age. The Secretary of Labor shall provide by regulation or by order that the employment of employees between the ages of fourteen and sixteen years in occupations other than manufacturing and mining shall not be deemed to constitute oppressive child labor if and to the extent that the Secretary of Labor determines that such employment is confined to periods which will not interfere with their schooling and to conditions which will not interfere with their health and well-being.

(m)(1) "Wage" paid to any employee includes the reasonable cost, as determined by the Secretary of Labor, to the employer of furnishing such employee with board, lodging, or other facilities, if such board, lodging, or other facilities are customarily furnished by such employer to his employees: *Provided,* That the cost of board, lodging, or other facilities shall not be included as a part of the wage paid to any employee to the extent it is excluded therefrom under the terms of a bona fide collective-bargaining agreement applicable to the particular employee: *Provided further,* That the Secretary is authorized to determine the fair value of such board, lodging, or other facilities for defined classes of employees and in defined areas, based on average cost to the employer or to groups of employers similarly situated, or average value to groups of employees, or other appropriate measures of fair value. Such evaluations, where applicable and pertinent, shall be used in lieu of actual measure of cost in determining the wage paid to any employee.

(2)(A) In determining the wage an employer is required to pay a tipped employee, the amount paid such employee by the employee's employer shall be an amount equal to—

(i) the cash wage paid such employee which for purposes of such determination shall be not less than the cash wage required to be paid such an employee on the date of the enactment of this paragraph; and

(ii) an additional amount on account of the tips received by such employee which amount is equal to the difference between the wage specified in clause (i) and the wage in effect under section 6(a)(1).

The additional amount on account of tips may not exceed the value of the tips actually received by an employee. The preceding 2 sentences shall not apply with respect to any tipped employee unless such employee has been informed by the employer of the provisions of this subsection, and all tips received by such employee have been retained by the employee, except that this subsection shall not be construed to prohibit the pooling of tips among employees who customarily and regularly receive tips.

(B) An employer may not keep tips received by its employees for any purposes, including allowing managers or supervisors to keep any portion of employees' tips, regardless of whether or not the employer takes a tip credit.

(n) "Resale" shall not include the sale of goods to be used in residential or farm building construction, repair, or maintenance: *Provided,* That the sale is recognized as a bona fide retail sale in the industry.

(o) HOURS WORKED.—In determining for the purposes of sections 6 and 7 the hours for which an employee is employed, there shall be excluded any time spent in changing clothes or washing at the beginning or end of each workday which was excluded from measured working time during the week involved by the express terms of or by custom or practice under a bona fide collective-bargaining agreement applicable to the particular employee.

(p) "American vessel" includes any vessel which is documented or numbered under the laws of the United States.

(q) "Secretary" means the Secretary of Labor.

(r)(1) "Enterprise" means the related activities performed (either through unified operation or common control) by any person or persons for a common business purpose, and includes all such activities whether performed in one or more establishments or by one or more corporate or other organizational units including departments of an establishment operated through leasing arrangements, but shall not include the related activities performed for such enterprise by an independent contractor. Within the meaning of this subsection, a retail or service establishment which is under independent ownership shall not be deemed to be so operated or controlled as to be other than a separate and distinct enterprise by reason of any arrangement, which includes, but is not necessarily limited to, an agreement, (A) that it will sell, or sell only, certain goods specified by a particular manufacturer, distributor, or advertiser, or (B) that it will join with other such establishments in the same industry for the purpose of collective purchasing, or (C) that it will have the exclusive rights to sell the goods or use the brand name of a manufacturer, distributor, or advertiser within a specified area, or by reason of the fact that it occupies premises leased to it by a person who also leases premises to other retail or service establishments.

(2) For purposes of paragraph (1), the activities performed by any person or persons—

(A) in connection with the operation of a hospital, an institution primarily engaged in the care of the sick, the aged, the mentally ill or defective who reside on the premises of such institution, a school for mentally or physicially handicapped or gifted children, a preschool, elementary or secondary school, or

an institution of higher education (regardless of whether or not such hospital, institution, or school is operated for profit or not for profit), or

(B) in connection with the operation of a street, suburban or interurban electric railway, or local trolley or motorbus carrier, if the rates and services of such railway or carrier are subject to regulation by a State or local agency (regardless of whether or not such railway or carrier is public or private or operated for profit or not for profit), or

(C) in connection with the activities of a public agency.

shall be deemed to be activities performed for a business purpose.

(s)(1) "Enterprise engaged in commerce or in the production of goods for commerce" means an enterprise that—

(A)(i) has employees engaged in commerce or in the production of goods for commerce, or that has employees handling, selling, or otherwise working on goods or materials that have been moved in or produced for commerce by any person; and

(ii) is an enterprise whose annual gross volume of sales made or business done is not less than $500,000 (exclusive of excise taxes at the retail level that are separately stated);

(B) is engaged in the operation of a hospital, an institution primarily engaged in the care of the sick, the aged, or the mentally ill or defective who reside on the premises of such institution, a school for mentally or physically handicapped or gifted children, a preschool, elementary or secondary school, or an institution of higher education (regardless of whether or not such hospital, institution, or school is public or private or operated for profit or not for profit); or

(C) is an activity of a public agency.

(2) Any establishment that has as its only regular employees the owner thereof or the parent, spouse, child, or other member of the immediate family of such owner shall not be considered to be an enterprise engaged in commerce or in the production of goods for commerce or a part of such an enterprise. The sales of such an establishment shall not be included for the purpose of determining the annual gross volume of sales of any enterprise for the purpose of this subsection.

(t) "Tipped employee" means any employee engaged in an occupation in which he customarily and regularly receives more than $30 a month in tips.

(u) "Man-day" means any day during which an employee performs any agricultural labor for not less than one hour.

(v) "Elementary school" means a day or residential school which provides elementary education, as determined under State law.

(w) "Secondary school" means a day or residential school which provides secondary education, as determined under State law.

(x) "Public agency" means the Government of the United States; the government of a State or political subdivision thereof; any agency of the United States (including the United States Postal Service and Postal Rate Commission), a State, or a political subdivision of a State; or any interstate governmental agency.

(y) "Employee in fire protection activities" means an employee, including a firefighter, paramedic, emergency medical technician,

rescue worker, ambulance personnel, or hazardous materials worker, who—

(1) is trained in fire suppression, has the legal authority and responsibility to engage in fire suppression, and is employed by a fire department of a municipality, county, fire district, or State; and

(2) is engaged in the prevention, control, and extinguishment of fires or response to emergency situations where life, property, or the environment is at risk.

[29 U.S.C. 203] Enacted June 25, 1938, ch. 676, sec. 3, 52 Stat. 1060; amended October 26, 1949, ch. 736, sec. 3, 63 Stat. 911; amended May 5, 1961, P.L. 87–30, sec. 2, 75 Stat. 65; amended September 23, 1966, P.L. 89–601, title I, secs. 101–103, title II, sec. 215(a), 80 Stat. 830–832, 837; amended June 23, 1972, P.L. 92–318, title IX, sec. 906(b)(2), (3), 86 Stat. 375; amended April 8, 1974, P.L. 93–259, secs. 6(a), (13(c), 88 Stat. 58, 64; amended November 1, 1977, P.L. 95–151, secs. 3(a), (b), 9(a)–(c), 91 Stat. 1249, 1251; amended November 13, 1985, P.L. 99–150, secs. 4(a), 5, 99 Stat. 790; amended November 17, 1989, P.L. 101–157, secs. 3 (a) and (d), 5, 103 Stat. 938–939, 941; amended August 20, 1996, P.L. 104–188, sec. 2105(b), 110 Stat. 1929; amended December 9, 1999, P.L. 106–151, sec. 1, 113 Stat 1731.

ADMINISTRATION

SEC. 4. (a) There is hereby created in the Department of Labor a Wage and Hour Division which shall be under the direction of an Administrator, to be known as the Administrator of the Wage and Hour Division (in this Act referred to as the "Administrator"). The Administrator shall be appointed by the President, by and with the advice and consent of the Senate, and shall receive compensation at the rate of $20,000 a year.

(b) The Secretary of Labor may, subject to the civil service laws, appoint such employees as he deems necessary to carry out his functions and duties under this Act and shall fix their compensation in accordance with the Classification Act of 1949, as amended. The Secretary may establish and utilize such regional, local, or other agencies, and utilize such voluntary and uncompensated services, as may from time to time be needed. Attorneys appointed under this section may appear for and represent the Secretary in any litigation, but all such litigation shall be subject to the direction and control of the Attorney General. In the appointment, selection, classification, and promotion of officers and employees of the Secretary, no political test or qualification shall be permitted or given consideration, but all such appointments and promotions shall be given and made on the basis of merit and efficiency.

(c) The principal office of the Secretary shall be in the District of Columbia, but he or his duly authorized representative may exercise any or all of his powers in any place.

(d)(1) The Secretary shall submit biennially in January a report to the Congress covering his activities for the preceding two years and including such information, data, and recommendations for further legislation in connection with the matters covered by this Act as he may find advisable. Such report shall contain an evaluation and appraisal by the Secretary of the minimum wages and overtime coverage established by this Act, together with his recommendations to the Congress. In making such evaluation and appraisal, the Secretary shall take into consideration any changes

which may have occurred in the cost of living and in productivity and the level of wages in manufacturing, the ability of employers to absorb wage increases, and such other factors as he may deem pertinent. Such report shall also include a summary of the special certificates issued under section 14(b).

(2) The Secretary shall conduct studies on the justification or lack thereof for each of the special exemptions set forth in section 13 of this Act, and the extent to which such exemptions apply to employees of establishments described in subsection (g) of such section and the economic effects of the application of such exemptions to such employees. The Secretary shall submit a report of his findings and recommendations to the Congress with respect to the studies conducted under this paragraph not later than January 1, 1976.

(3) The Secretary shall conduct a continuing study on means to prevent curtailment of employment opportunities for manpower groups which have had historically high incidences of unemployment (such as disadvantaged minorities, youth, elderly, and such other groups as the Secretary may designate). The first report of the results of such study shall be transmitted to the Congress not later than one year after the effective date of the Fair Labor Standards Amendments of 1974. Subsequent reports on such study shall be transmitted to the Congress at two-year intervals after such effective date. Each such report shall include suggestions respecting the Secretary's authority under section 14 of this Act.

(e) Whenever the Secretary has reason to believe that in any industry under this Act the competition of foreign producers in United States markets or in markets abroad, or both, has resulted, or is likely to result, in increased unemployment in the United States, he shall undertake an investigation to gain full information with respect to the matter. If he determines such increased unemployment has in fact resulted, or is in fact likely to result, from such competition, he shall make a full and complete report of his findings and determinations to the President and to the Congress: *Provided,* That he may also include in such report information on the increased employment resulting from additional exports in any industry under this Act as he may determine to be pertinent to such report.

(f) The Secretary is authorized to enter into an agreement with the Librarian of Congress with respect to individuals employed in the Library of Congress to provide for the carrying out of the Secretary's functions under this Act with respect to such individuals. Notwithstanding any other provision of this Act, or any other law, the Civil Service Commission is authorized to administer the provisions of this Act with respect to any individual employed by the United States (other than an individual employed in the Library of Congress, United States Postal Service, Postal Rate Commission, or the Tennessee Valley Authority). Nothing in this subsection shall be construed to affect the right of an employee to bring an action for unpaid minimum wages, or unpaid overtime compensation, and liquidated damages under section 16(b) of this Act.

[29 U.S.C. 204] Enacted June 25, 1938, ch. 676, sec. 4, 52 Stat. 1061; amended October 26, 1949, ch. 736, sec. 4, 63 Stat. 911; amended October 28, 1949, ch. 782, title XI, sec. 1106(a), 63 Stat. 972; amended August 12, 1955, ch. 867, sec. 2, 69

Stat. 711; amended May 5, 1961, P.L. 87–30, sec. 3, 75 Stat. 66; amended April 8, 1974, P.L. 93–259, secs. 6(b), 24(c), 27, 88 Stat. 60, 72, 73; amended December 21, 1995, P.L. 104–66, sec. 1102(a), 109 Stat. 722.

[SEC. 5. Repealed by section 8103(c)(1)(A) of Public Law 110–28. Paragraph (2) of section 8103(c) provides that the amendment "shall take effect 60 days after the date of enactment of this Act" (May 25, 2007).]

MINIMUM WAGES

SEC. 6. (a) Every employer shall pay to each of his employees who in any workweek is engaged in commerce or in the production of goods for commerce, or is employed in an enterprise engaged in commerce or in the production of goods for commerce, wages at the following rates:

(1)[1] except as otherwise provided in this section, not less than—

(A) $5.85 an hour, beginning on the 60th day after the date of enactment of the Fair Minimum Wage Act of 2007;

(B) $6.55 an hour, beginning 12 months after that 60th day; and

(C) $7.25 an hour, beginning 24 months after that 60th day;

(2) if such employee is a home worker in Puerto Rico or the Virgin Islands, not less than the minimum piece rate prescribed by regulation or order; or, if no such minimum piece rate is in effect, any piece rate adopted by such employer which shall yield, to the proportion or class of employees prescribed by regulation or order, not less than the applicable minimum hourly wage rate. Such minimum piece rates or employer piece rates shall be commensurate with, and shall be paid in lieu of, the minimum hourly wage rate applicable under the provisions of this section. The Secretary of Labor, or his authorized representative, shall have power to make such regulations or orders as are necessary or appropriate to carry out any of the provisions of this paragraph, including the power without limiting the generality of the foregoing, to define any operation or occupation which is performed by such home work employees in Puerto Rico or the Virgin Islands; to establish minimum piece rates for any operation or occupation so defined; to prescribe the method and procedure for ascertaining and promulgating minimum piece rates; to prescribe standards for employer piece rates, including the proportion or class of employees who shall receive not less than the minimum hourly wage rate; to define the term "home worker"; and to prescribe the conditions under which employers, agents, contractors, and subcontractors shall cause goods to be produced by home workers;

[1] Paragraph (1) of section 6(a) (shown above) was amended to read by section 8102(a) of Public Law 110–28. Subsection (b) of such section provides that the amendment "shall take effect 60 days after the date of enactment of this Act"[May 25, 2007].

(3)[2] if such employee is employed as a seaman on an American vessel, not less than the rate which will provide to the employee, for the period covered by the wage payment, wages equal to compensation at the hourly rate prescribed by paragraph (1) of this subsection for all hours during such period when he was actually on duty (including periods aboard ship when the employee was on watch or was, at the direction of a superior officer, performing work or standing by, but not including off-duty periods which are provided pursuant to the employment agreement); or

(4) if such employee is employed in agriculture, not less than the minimum wage rate in effect under paragraph (1) after December 31, 1977.

(b) Every employer shall pay to each of his employees (other than an employee to whom subsection (a)(5) applies) who in any workweek is engaged in commerce or in the production of goods for commerce, or is employed in an enterprise engaged in commerce or in the production of goods for commerce, and who in such workweek is brought within the purview of this section by the amendments made to this Act by the Fair Labor Standards Amendments of 1966, title IX of the Education Amendments of 1972, or the Fair Labor Standards Amendments of 1974, wages at the following rate: Effective after December 31, 1977, not less than the minimum wage rate in effect under subsection (a)(1).

(c) [Repealed by Public Law 104–186.]

(d)[3](1) No employer having employees subject to any provisions of this section shall discriminate, within any establishment in which such employees are employed, between employees on the basis of sex by paying wages to employees in such establishment at a rate less than the rate at which he pays wages to employees of the opposite sex in such establishment for equal work on jobs the performance of which requires equal skill, effort, and responsibility, and which are performed under similar working conditions, except where such payment is made pursuant to (i) a seniority system; (ii) a merit system; (iii) a system which measures earnings by quantity or quality or production; or (iv) a differential based on any other factor other than sex: *Provided,* That an employer who is paying a wage rate differential in violation of this subsection shall not, in order to comply with the provisions of this subsection, reduce the wage rate of any employee.

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[2] Paragraph (3) of section 6(a) was repealed and paragraphs (4) and (5) were redesignated as (3) and (4), respectively pursuant to the amendment made by section 8103(c)(1)(B) of Public Law 110–28. Paragraph (2) of section 8103(c) provides that the amendments "shall take effect 60 days after the date of enactment of this Act" [May 25, 2007].

[3] Section (d) was enacted by section 3 of the Equal Pay Act of 1963 (P.L. 88–38). Section 2 of that Act provided:

SEC. 2. (a) The Congress hereby finds that the existence in industries engaged in commerce or in the production of goods for commerce of wage differentials based on sex—

(1) depresses wages and living standards for employees necessary for their health and efficiency;

(2) prevents the maximum utilization of the available labor resources;

(3) tends to cause labor disputes, thereby burdening, affecting, and obstructing commerce;

(4) burdens commerce and the free flow of goods in commerce; and

(5) constitutes an unfair method of competition.

(b) It is hereby declared to be the policy of this Act, through exercise by Congress of its power to regulate commerce among the several States and with foreign nations, to correct the conditions above referred to in such industries.

(2) No labor organization, or its agents, representing employees of an employer having employees subject to any provisions of this section shall cause or attempt to cause such an employer to discriminate against an employee in violation of paragraph (1) of this subsection.

(3) For purposes of administration and enforcement, any amounts owing to any employees which have been withheld in violation of this subsection shall be deemed to be unpaid minimum wages or unpaid overtime-compensation under this Act.

(4) As used in this subsection, the term "labor organization" means any organization of any kind, or any agency or employee representation committee or plan, in which employees participate and which exists for the purpose, in whole or in part, of dealing with employers concerning grievances, labor disputes, wages, rates of pay, hours of employment, or conditions of work.

(e)(1) Notwithstanding the provisions of section 13 of this Act (except subsections (a)(1) and (f) thereof), every employer providing any contract services (other than linen supply services) under a contract with the United States or any subcontract thereunder shall pay to each of his employees whose rate of pay is not governed by the Service Contract Act of 1965 (41 U.S.C. 351–357) or to whom subsection (a)(1) of this section is not applicable, wages at rates not less than the rates provided for in subsection (b) of this section.

(2) Notwithstanding the provisions of section 13 of this Act (except subsections (a)(1) and (f) thereof) and the provisions of the Service Contract Act of 1965, every employer in an establishment providing linen supply services to the United States under a contract with the United States or any subcontract thereunder shall pay to each of his employees in such establishment wages at rates not less than those prescribed in subsection (b), except that if more than 50 per centum of the gross annual dollar volume of sales made or business done by such establishment is derived from providing such linen supply services under any such contracts or subcontracts, such employer shall pay to each of his employees in such establishment wages at rates not less than those prescribed in subsection (a)(1) of this section.

(f) Any employee—

(1) who in any workweek is employed in domestic service in a household shall be paid wages at a rate not less than the wage rate in effect under section 6(b) unless such employee's compensation for such service would not because of section 209(a)(6) of the Social Security Act constitute wages for the purpose of title II of such Act, or

(2) who in any workweek—

(A) is employed in domestic service in one or more households, and

(B) is so employed for more than 8 hours in the aggregate,

shall be paid wages for such employment in such workweek at a rate not less than the wage rate in effect under section 6(b).

(g)(1) In lieu of the rate prescribed by subsection (a)(1), any employer may pay any employee of such employer, during the first 90 consecutive calendar days after such employee is initially em-

ployed by such employer, a wage which is not less than $4.25 an hour.

(2) In lieu of the rate prescribed by subsection (a)(1), the Governor of Puerto Rico, subject to the approval of the Financial Oversight and Management Board established pursuant to section 101 of the Puerto Rico Oversight, Management, and Economic Stability Act, may designate a time period not to exceed four years during which employers in Puerto Rico may pay employees who are initially employed after the date of enactment of such Act a wage which is not less than the wage described in paragraph (1). Notwithstanding the time period designated, such wage shall not continue in effect after such Board terminates in accordance with section 209 of such Act.

(3) No employer may take any action to displace employees (including partial displacements such as reduction in hours, wages, or employment benefits) for purposes of hiring individuals at the wage authorized in paragraph (1) or (2).

(4) Any employer who violates this subsection shall be considered to have violated section 15(a)(3) (29 U.S.C. 215(a)(3)).

(5) This subsection shall only apply to an employee who has not attained the age of 20 years, except in the case of the wage applicable in Puerto Rico, 25 years, until such time as the Board described in paragraph (2) terminates in accordance with section 209 of the Act described in such paragraph.

[29 U.S.C. 206] Enacted June 25, 1938, ch. 676, sec. 6, 52 Stat. 1062; amended June 26, 1940, ch. 432, sec. 3 (e), (f), 54 Stat. 616; amended October 26, 1949, ch. 736, sec. 6, 63 Stat. 912; amended August 12, 1955, ch. 867, sec. 3, 69 Stat. 711; amended August 8, 1956, ch. 1035, sec. 2, 70 Stat. 1118; amended May 5, 1961, P.L. 87–30, sec. 5, 75 Stat. 67; amended June 10, 1963, P.L. 88–38, sec. 3, 77 Stat. 56; amended September 23, 1966, P.L. 89–601, title III, secs. 301–305, 80 Stat. 838, 839, 841; amended April 8, 1974, P.L. 93–259, secs. 2–4, 5(b), 7(b)(1), 88 Stat. 55, 56, 62; amended November 1, 1977, P.L. 95–151, sec. 2(a)–(d)(2), 91 Stat. 1245, 1246; amended November 17, 1989, P.L. 101–157, secs. 2, 4(b), 103 Stat. 938, 940; amended December 19, 1989, P.L. 101–239, sec. 10208(d)(2)(B)(i), 103 Stat. 2481; amended August 20, 1996, P.L. 104–188, secs. 2104(b) and 2105(c), 110 Stat. 1928 and 1929

MAXIMUM HOURS

SEC. 7. (a)(1) Except as otherwise provided in this section, no employer shall employ any of his employees who in any workweek is engaged in commerce or in the production of goods for commerce, or is employed in an enterprise engaged in commerce or in the production of goods for commerce, for a workweek longer than forty hours unless such employee receives compensation for his employment in excess of the hours above specified at a rate not less than one and one-half times the regular rate at which he is employed.

(2) No employer shall employ any of his employees who in any workweek is engaged in commerce or in the production of goods for commerce, or is employed in an enterprise engaged in commerce or in the production of goods for commerce, and who in such workweek is brought within the purview of this subsection by the amendments made to this Act by the Fair Labor Standards Amendments of 1966—

(A) for a workweek longer than forty-four hours during the first year from the effective date of the Fair Labor Standards Amendments of 1966,

(B) for a workweek longer than forty-two hours during the second year from such date, or

(C) for a workweek longer than forty hours after the expiration of the second year from such date,

unless such employee receives compensation for his employment in excess of the hours above specified at a rate not less than one and one-half times the regular rate at which he is employed.

(b) No employer shall be deemed to have violated subsection (a) by employing any employee for a workweek in excess of that specified in such subsection without paying the compensation for overtime employment prescribed therein if such employee is so employed—

(1) in pursuance of an agreement, made as a result of collective bargaining by representatives of employees certified as bona fide by the National Labor Relations Board, which provides that no employee shall be employed more than one thousand and forty hours during any period of twenty-six consecutive weeks, or

(2) in pursuance of an agreement, made as a result of collective bargaining by representatives of employees certified as bona fide by the National Labor Relations Board which provides that during a specified period of fifty-two consecutive weeks the employee shall be employed not more than two thousand two hundred and forty hours and shall be guaranteed not less than one thousand eight hundred and forty hours (or not less than forty-six weeks at the normal number of hours worked per week, but not less than thirty hours per week) and not more than two thousand and eighty hours of employment for which he shall receive compensation for all hours guaranteed or worked at rates not less than those applicable under the agreement to the work performed and for all hours in excess of the guaranty which are also in excess of the maximum workweek applicable to such employee under subsection (a) or two thousand and eighty in such period at rates not less than one and one-half times the regular rate at which he is employed; or

(3) by an independently owned and controlled local enterprise (including an enterprise with more than one bulk storage establishment) engaged in the wholesale or bulk distribution of petroleum products if—

(A) the annual gross volume of sales of such enterprise is less than $1,000,000 exclusive of excise taxes.

(B) more than 75 per centum of such enterprise's annual dollar volume of sales is made within the State in which such enterprise is located, and

(C) not more than 25 per centum of the annual dollar volume of sales of such enterprise is to customers who are engaged in the bulk distribution of such products for resale;

and if such employee receives compensation for employment in excess of twelve hours in any workday, or for employment in excess

of fifty-six hours in any workweek, as the case may be, at a rate not less than one and one-half times the regular rate at which he is employed.

[Subsections (c) and (d) repealed effective Dec. 31, 1976.]

(e) As used in this section the "regular rate" at which an employee is employed shall be deemed to include all remuneration for employment paid to, or on behalf of, the employee, but shall not be deemed to include—

(1) sums paid as gifts; payments in the nature of gifts made at Christmas time or on other special occasions, as a reward for service, the amounts of which are not measured by or dependent on hours worked, production, or efficiency;

(2) payments made for occasional periods when no work is performed due to vacation, holiday, illness, failure of the employer to provide sufficient work or other similar cause; reasonable payments for traveling expenses, or other expenses, incurred by an employee in the furtherance of his employer's interests and properly reimburseable by the employer; and other similar payments to any employee which are not made as compensation for his hours of employment;

(3) sums paid in recognition of services performed during a given period if either, (a) both the fact that payment is to be made and the amount of the payment are determined at the sole discretion of the employer at or near the end of the period and not pursuant to any prior contract, agreement, or promise causing the employee to expect such payments regularly; or (b) the payments are made pursuant to a bona fide profit-sharing plan or trust or bona fide thrift or savings plan, meeting the requirements of the Secretary of Labor set forth in appropriate regulations which he shall issue, having due regard among other relevant facts, to the extent to which the amounts paid to the employee are determined without regard to hours of work, production, or efficiency; or (c) the payments are talent fees (as such talent fees are defined and delimited by regulations of the Secretary) paid to performers, including announcers, on radio and television programs;

(4) contributions irrevocably made by an employer to a trustee or third person pursuant to a bona fide plan for providing old-age retirement, life, accident, or health insurance or similar benefits for employees;

(5) extra compensation provided by a premium rate paid for certain hours worked by the employee in any day or workweek because such hours are hours worked in excess of eight in a day or in excess of the maximum workweek applicable to such employee under subsection (a) or in excess of the employee's normal working hours or regular working hours, as the case may be;

(6) extra compensation provided by a premium rate paid for work by the employee on Saturdays, Sundays, holidays, or regular days of rest, or on the sixth or seventh day of the workweek, where such premium rate is not less than one and one-half times the rate established in good faith for like work performed in nonovertime hours on other days;

(7) extra compensation provided by a premium rate paid to the employee, in pursuance of an applicable employment contract or collective-bargaining agreement, for work outside of the hours established in good faith by the contract or agreement as the basic, normal, or regular workday (not exceeding eight hours) or workweek (not exceeding the maximum workweek applicable to such employee under subsection (a)), where such premium rate is not less than one and one-half times the rate established in good faith by the contract or agreement for like work performed during such workday or workweek; or

(8) any value or income derived from employer-provided grants or rights provided pursuant to a stock option, stock appreciation right, or bona fide employee stock purchase program which is not otherwise excludable under any of paragraphs (1) through (7) if—

(A) grants are made pursuant to a program, the terms and conditions of which are communicated to participating employees either at the beginning of the employee's participation in the program or at the time of the grant;

(B) in the case of stock options and stock appreciation rights, the grant or right cannot be exercisable for a period of at least 6 months after the time of grant (except that grants or rights may become exercisable because of an employee's death, disability, retirement, or a change in corporate ownership, or other circumstances permitted by regulation), and the exercise price is at least 85 percent of the fair market value of the stock at the time of grant;

(C) exercise of any grant or right is voluntary; and

(D) any determinations regarding the award of, and the amount of, employer-provided grants or rights that are based on performance are—

(i) made based upon meeting previously established performance criteria (which may include hours of work, efficiency, or productivity) of any business unit consisting of at least 10 employees or of a facility, except that, any determinations may be based on length of service or minimum schedule of hours or days of work; or

(ii) made based upon the past performance (which may include any criteria) of one or more employees in a given period so long as the determination is in the sole discretion of the employer and not pursuant to any prior contract.

(f) No employer shall be deemed to have violated subsection (a) by employing any employee for a workweek in excess of the maximum workweek applicable to such employee under subsection (a) if such employee is employed pursuant to a bona fide individual contract, or pursuant to an agreement made as a result of collective bargaining by representatives of employees, if the duties of such employee necessitate irregular hours of work, and the contract or agreement (1) specifies a regular rate of pay of not less than the minimum hourly rate provided in subsection (a) or (b) of section 6 (whichever may be applicable) and compensation at not less than one and one-half times such rate for all hours worked in excess of

such maximum workweek, and (2) provides a weekly guaranty of pay for not more than sixty hours based on the rates so specified.

(g) No employer shall be deemed to have violated subsection (a) by employing any employee for a workweek in excess of the maximum workweek applicable to such employee under such subsection if, pursuant to an agreement or understanding arrived at between the employer and the employee before performance of the work, the amount paid to the employee for the number of hours worked by him in such workweek in excess of the maximum workweek applicable to such employee under such subsection—

(1) in the case of an employee employed at piece rates, is computed at piece rates not less than one and one-half times the bona fide piece rates applicable to the same work when performed during nonovertime hours; or

(2) in the case of an employee performing two or more kinds of work for which different hourly or piece rates have been established, is computed at rates not less than one and one-half times such bona fide rates applicable to the same work when performed during nonovertime hours; or

(3) is computed at a rate not less than one and one-half times the rate established by such agreement or understanding as the basic rate to be used in computing overtime compensation thereunder: *Provided,* That the rate so established shall be authorized by regulation by the Secretary of Labor as being substantially equivalent to the average hourly earnings of the employee, exclusive of overtime premiums, in the particular work over a representative period of time;

and if (i) the employee's average hourly earnings for the workweek exclusive of payments described in paragraphs (1) through (7) of subsection (e) are not less than the minimum hourly rate required by applicable law, and (ii) extra overtime compensation is properly computed and paid on other forms of additional pay required to be included in computing the regular rate.

(h)(1) Except as provided in paragraph (2), sums excluded from the regular rate pursuant to subsection (e) shall not be creditable toward wages required under section 6 or overtime compensation required under this section.

(2) Extra compensation paid as described in paragraphs (5), (6), and (7) of subsection (e) shall be creditable toward overtime compensation payable pursuant to this section.

(i) No employer shall be deemed to have violated subsection (a) by employing any employee of a retail or service establishment for a workweek in excess of the applicable workweek specified therein, if (1) the regular rate of pay of such employee is in excess of one and one-half times the minimum hourly rate applicable to him under section 6, and (2) more than half his compensation for a representative period (not less than one month) represents commissions on goods or services. In determining the proportion of compensation representing commissions, all earnings resulting from the application of a bona fide commission rate shall be deemed commissions on goods or services without regard to whether the computed commissions exceed the draw or guarantee.

(j) No employer engaged in the operation of a hospital or an establishment which is an institution primarily engaged in the care

of the sick, the aged, or the mentally ill or defective who reside on the premises shall be deemed to have violated subsection (a) if, pursuant to an agreement or understanding arrived at between the employer and the employee before performance of the work, a work period of fourteen consecutive days is accepted in lieu of the workweek of seven consecutive days for purposes of overtime computation and if, for his employment in excess of eight hours in any workday and in excess of eighty hours in such fourteen-day period, the employee receives compensation at a rate of not less than one and one-half times the regular rate at which he is employed.

(k) No public agency shall be deemed to have violated subsection (a) with respect to the employment of any employee in fire protection activities or any employee in law enforcement activities (including security personnel in correctional institutions) if—

(1) in a work period of 28 consecutive days the employee receives for tours of duty which in the aggregate exceed the lesser of (A) 216 hours, or (B) the average number of hours (as determined by the Secretary pursuant to section 6(c)(3) of the Fair Labor Standards Amendments of 1974) in tours of duty of employees engaged in such activities in work periods of 28 consecutive days in calendar year 1975; or

(2) in the case of such employee to whom a work period of at least 7 but less than 28 days applies, in his work period the employee receives for tours of duty which in the aggregate exceed a number of hours which bears the same ratio to the number of consecutive days in his work period as 216 hours (or if lower, the number of hours referred to in clause (B) of paragraph (1)) bears to 28 days;

compensation at a rate not less than one and one-half times the regular rate at which he is employed.

(l) No employer shall employ any employee in domestic service in one or more households for a workweek longer than forty hours unless such employee receives compensation for such employment in accordance with subsection (a).

(m) For a period or periods of not more than fourteen workweeks in the aggregate in any calendar year, any employer may employ any employee for a workweek in excess of that specified in subsection (a) without paying the compensation for overtime employment prescribed in such subsection, if such employee—

(1) is employed by such employer—

(A) to provide services (including stripping and grading) necessary and incidental to the sale at auction of green leaf tobacco of type 11, 12, 13, 14, 21, 22, 23, 24, 31, 35, 36, or 37 (as such types are defined by the Secretary of Agriculture), or in auction sale, buying, handling, stemming, redrying, packing, and storing of such tobacco,

(B) in auction sale, buying, handling, sorting, grading, packing, or storing green leaf tobacco of type 32 (as such type is defined by the Secretary of Agriculture), or

(C) in auction sale, buying, handling, stripping, sorting, grading, sizing, packing, or stemming prior to packing, of perishable cigar leaf tobacco of type 41, 42, 43, 44, 45, 46, 51, 52, 53, 54, 55, 61, or 62 (as such types are defined by the Secretary of Agriculture); and

(2) receives for—

(A) such employment by such employer which is in excess of ten hours in any workday, and

(B) such employment by such employer which is in excess of forty-eight hours in any workweek,

compensation at a rate not less than one and one-half times the regular rate at which he is employed.

An employer who receives an exemption under this subsection shall not be eligible for any other exemption under this section.

(n) In the case of an employee of an employer engaged in the business of operating a street, suburban or interurban electric railway or local trolley or motorbus carrier (regardless of whether or not such railway or carrier is public or private or operated for profit or not for profit), in determining the hours of employment of such an employee to which the rate prescribed by subsection (a) applies there shall be excluded the hours such employee was employed in charter activities by such employer if (1) the employee's employment in such activities was pursuant to an agreement or understanding with his employer arrived at before engaging in such employment, and (2) if employment in such activities is not part of such employee's regular employment.

(o)(1) Employees of a public agency which is a State, a political subdivision of a State, or an interstate governmental agency may receive, in accordance with this subsection and in lieu of overtime compensation, compensatory time off at a rate not less than one and one-half hours for each hour of employment for which overtime compensation is required by this section.

(2) A public agency may provide compensatory time under paragraph (1) only—

(A) pursuant to—

(i) applicable provisions of a collective bargaining agreement, memorandum of understanding, or any other agreement between the public agency and representatives of such employees; or

(ii) in the case of employees not covered by subclause (i), an agreement or understanding arrived at between the employer and employee before the performance of the work; and

(B) if the employee has not accrued compensatory time in excess of the limit applicable to the employee prescribed by paragraph (3).

In the case of employees described in clause (A)(ii) hired prior to April 15, 1986, the regular practice in effect on April 15, 1986, with respect to compensatory time off for such employees in lieu of the receipt of overtime compensation, shall constitute an agreement or understanding under such clause (A)(ii). Except as provided in the previous sentence, the provision of compensatory time off to such employees for hours worked after April 14, 1986, shall be in accordance with this subsection.

(3)(A) If the work of an employee for which compensatory time may be provided included work in a public safety activity, an emergency response activity, or a seasonal activity, the employee engaged in such work may accrue not more than 480 hours of compensatory time for hours worked after April 15, 1986. If such work

was any other work, the employee engaged in such work may accrue not more than 240 hours of compensatory time for hours worked after April 15, 1986. Any such employee who, after April 15, 1986, has accrued 480 or 240 hours, as the case may be, of compensatory time off shall, for additional overtime hours of work, be paid overtime compensation.

(B) If compensation is paid to an employee for accrued compensatory time off, such compensation shall be paid at the regular rate earned by the employee at the time the employee receives such payment.

(4) An employee who has accrued compensatory time off authorized to be provided under paragraph (1) shall, upon termination of employment, be paid for the unused compensatory time at a rate of compensation not less than—

(A) the average regular rate received by such employee during the last 3 years of the employee's employment, or

(B) the final regular rate received by such employee,

whichever is higher

(5) An employee of a public agency which is a State, political subdivision of a State, or an interstate governmental agency—

(A) who has accrued compensatory time off authorized to be provided under paragraph (1), and

(B) who has requested the use of such compensatory time, shall be permitted by the employee's employer to use such time within a reasonable period after making the request if the use of the compensatory time does not unduly disrupt the operations of the public agency.

(6) The hours an employee of a public agency performs court reporting transcript preparation duties shall not be considered as hours worked for the purposes of subsection (a) if—

(A) such employee is paid at a per-page rate which is not less than—

(i) the maximum rate established by State law or local ordinance for the jurisdiction of such public agency,

(ii) the maximum rate otherwise established by a judicial or administrative officer and in effect on July 1, 1995, or

(iii) the rate freely negotiated between the employee and the party requesting the transcript, other than the judge who presided over the proceedings being transcribed, and

(B) the hours spent performing such duties are outside of the hours such employee performs other work (including hours for which the agency requires the employee's attendance) pursuant to the employment relationship with such public agency.

For purposes of this section, the amount paid such employee in accordance with subparagraph (A) for the performance of court reporting transcript preparation duties, shall not be considered in the calculation of the regular rate at which such employee is employed.

(7) For purposes of this subsection—

(A) the term "overtime compensation" means the compensation required by subsection (a), and

(B) the terms "compensatory time" and "compensatory time off" mean hours during which an employee is not work-

ing, which are not counted as hours worked during the applicable workweek or other work period for purposes of overtime compensation, and for which the employee is compensated at the employee's regular rate.

(p)(1) If an individual who is employed by a State, political subdivision of a State, or an interstate governmental agency in fire protection or law enforcement activities (including activities of security personnel in correctional institutions) and who, solely at such individual's option, agrees to be employed on a special detail by a separate or independent employer in fire protection, law enforcement, or related activities, the hours such individual was employed by such separate and independent employer shall be excluded by the public agency employing such individual in the calculation of the hours for which the employee is entitled to overtime compensation under this section if the public agency—

(A) requires that its employees engaged in fire protection, law enforcement, or security activities be hired by a separate and independent employer to perform the special detail,

(B) facilitates the employment of such employees by a separate and independent employer, or

(C) otherwise affects the condition of employment of such employees by a separate and independent employer.

(2) If an employee of a public agency which is a State, political subdivision of a State, or an interstate governmental agency undertakes, on an occasional or sporadic basis and solely at the employee's option, part-time employment for the public agency which is in a different capacity from any capacity in which the employee is regularly employed with the public agency, the hours such employee was employed in performing the different employment shall be excluded by the public agency in the calculation of the hours for which the employee is entitled to overtime compensation under this section.

(3) If an individual who is employed in any capacity by a public agency which is a State, political subdivision of a State, or an interstate governmental agency, agrees, with the approval of the public agency and solely at the option of such individual, to substitute during scheduled work hours for another individual who is employed by such agency in the same capacity, the hours such employee worked as a substitute shall be excluded by the public agency in the calculation of the hours for which the employee is entitled to overtime compensation under this section.

(q) Any employer may employ any employee for a period or periods of not more than 10 hours in the aggregate in any workweek in excess of the maximum workweek specified in subsection (a) without paying the compensation for overtime employment prescribed in such subsection, if during such period or periods the employee is receiving remedial education that is—

(1) provided to employees who lack a high school diploma or educational attainment at the eighth grade level;

(2) designed to provide reading and other basic skills at an eighth grade level or below; and

(3) does not include job specific training.

[Note: Section 108(a) of division H of Public Law 114–113 provides: [s]ection 7 of the Fair Labor Standards Act of 1938 (29 U.S.C. 207) shall be applied as if the following text is part of such section:]

[(s)[4](1) The provisions of this section shall not apply for a period of 2 years after the occurrence of a major disaster to any employee—

(A) employed to adjust or evaluate claims resulting from or relating to such major disaster, by an employer not engaged, directly or through an affiliate, in underwriting, selling, or marketing property, casualty, or liability insurance policies or contracts;

(B) who receives from such employer on average weekly compensation of not less than $591.00 per week or any minimum weekly amount established by the Secretary, whichever is greater, for the number of weeks such employee is engaged in any of the activities described in subparagraph (C); and

(C) whose duties include any of the following:

(i) interviewing insured individuals, individuals who suffered injuries or other damages or losses arising from or relating to a disaster, witnesses, or physicians;

(ii) inspecting property damage or reviewing factual information to prepare damage estimates;

(iii) evaluating and making recommendations regarding coverage or compensability of claims or determining liability or value aspects of claims;

(iv) negotiating settlements; or

(v) making recommendations regarding litigation.

(2) The exemption in this subsection shall not affect the exemption provided by section 13(a)(1).

(3) For purposes of this subsection—

(A) the term "major disaster" means any disaster or catastrophe declared or designated by any State or Federal agency or department;

(B) the term "employee employed to adjust or evaluate claims resulting from or relating to such major disaster" means an individual who timely secured or secures a license required by applicable law to engage in and perform the activities described in clauses (i) through (v) of paragraph (1)(C) relating to a major disaster, and is employed by an employer that maintains worker compensation insurance coverage or protection for its employees, if required by applicable law, and withholds applicable Federal, State, and local income and payroll taxes from the wages, salaries and any benefits of such employees; and

(C) the term "affiliate" means a company that, by reason of ownership or control of 25 percent or more of the outstanding shares of any class of voting securities of one or more companies, directly or indirectly, controls, is controlled by, or is under common control with, another company.]

[4] Section 109(a) of division H of Public Law 116–31 also provides for a shall be applied instruction and what appears to be an identical subsection (s), which is not shown here. Section 109(a) of division H of Public Law 116–141 also provides for a shall be applied instruction and what appears to be an identical subsection (s), which is not shown here.

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[29 U.S.C. 207] Enacted June 25, 1938, ch. 676, sec. 7, 52 Stat. 1063; amended October 29, 1941, ch. 461, sec. 1, 55 Stat. 766; amended July 20, 1949, ch. 352, sec. 1, 63 Stat. 446; amended October 26, 1949, ch. 736, sec. 7, 63 Stat. 912; amended May 5, 1961, P.L. 87–30, sec. 6, 75 Stat. 69; amended September 23, 1966, P.L. 89–601, title II, secs. 204(c), (d), 212(b), title IV, secs. 401–403, 80 Stat. 835, 837, 841, 842; amended April 8, 1974, P.L. 93–259, secs. 6(c)(1), 7(b)(2), 9(a), 12(b), 19, 21(a), 88 Stat. 60, 62, 64, 66, 68; amended November 13, 1985, P.L. 99–150, secs. 2(a), 3(a), (b), and (c)(1), 99 Stat. 787, 789; amended November 17, 1989, P.L. 101–157, sec. 7, 103 Stat. 944; amended September 6, 1995, P.L. 104–26, sec. 2, 109 Stat. 264; amended March 23, 2010, P.L. 111–148, sec. 4207, 124 Stat. 577.

[SEC. 8. Repealed by section 8103(c)(1)(A) of Public Law 110–28. Paragraph (2) of such section 8103(c) provides that the amendment made "shall take effect 60 days after the date of enactment of this Act" (May 25, 2007).]

ATTENDANCE OF WITNESSES

SEC. 9. For the purpose of any hearing or investigation provided for in this Act, the provisions of sections 9 and 10 (relating the attendance of witnesses and the production of books, papers, and documents) of the Federal Trade Commission Act of September 16, 1914, as amended (U.S.C. 1934 edition, title 15, secs. 40 and 50), are hereby made applicable to the jurisdiction, powers, and duties of the Secretary of Labor and the industry committees.

[29 U.S.C. 209] Enacted June 25, 1938, ch. 676, sec. 9, 52 Stat. 1065.

COURT REVIEW

SEC. 10. (a) Any person aggrieved by an order of the Secretary issued under section 8 may obtain a review of such order in the United States Court of Appeals for any circuit wherein such person resides or has his principal place of business, or in the United States Court of Appeals for the District of Columbia, by filing in such court, within 60 days after the entry of such order a written petition praying that the order of the Secretary be modified or set aside in whole or in part. A copy of such petition shall forthwith be transmitted by the clerk of the court to the Secretary, and thereupon the Secretary shall file in the court of the record of the industry committee upon which the order complained of was entered, as provided in section 2112 of title 28, United States Code. Upon the filing of such petition such court shall have exclusive jurisdiction to affirm, modify (including provision for the payment of an appropriate minimum wage rate), or set aside such order in whole or in part so far as it is applicable to the petitioner. The review by the court shall be limited to questions of law, and findings of fact by such industry committee when supported by substantial evidence shall be conclusive. No objection to the order of the Secretary shall be considered by the court unless such objective shall have been urged before such industry committee or unless there were reasonable grounds for failure so to do. If application is make to the court for leave to adduce additional evidence, and it is shown to the satifaction of the court that such additional evidence may materially affect the result of the proceeding and that there were reasonable grounds for failure to adduce such evidence in the proceedings before such industry committee, the court may order such additional evidence to be taken before an industry committee and to be adduced upon the hearing in such manner and upon such terms

and conditions as to the court may seem proper. Such industry committee may modify the initial findings by reason of the additional evidence so taken, and shall file with the court such modified or new findings which if supported by substantial evidence shall be conclusive, and shall also file its recommendation, if any, for the modification or setting aside of the original order. The judgment and decree of the court shall be final, subject to review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28 of the United States Code.

(b) The commencement of proceedings under subsection (a) shall not, unless specifically ordered by the court, operate as a stay of the Secretary's order. The Court shall not grant any stay of the order unless the person complaining of such order shall file in court an undertaking with a surety or sureties satisfactory to the court of the payment to the employees affected by the order, in the event such order is affirmed, of the amount by which the compensation such employees are entitled to receive under the order exceeds the compensation they actually receive while such stay is in effect.

[29 U.S.C. 210] Enacted June 25, 1938, ch. 676, sec. 10, 52 Stat. 1065; amended August 12, 1955, ch. 867, sec. 5(f), 69 Stat. 712; amended August 28, 1958, P.L. 85–791, sec. 22, 72 Stat. 948; amended April 8, 1974. P.L. 93–259, sec. 5(c)(2), 88 Stat. 58.

INVESTIGATIONS, INSPECTIONS, RECORDS, AND HOMEWORK REGULATIONS

SEC. 11. (a) The Secretary of Labor or his designated representatives may investigate and gather data regarding the wages, hours, and other conditions and practices of employment in any industry subject to this Act, and may enter and inspect such places and such records (and make such transcriptions thereof), question such employees, and investigate such facts, conditions, practices, or matters as he may deem necessary or appropriate to determine whether any person has violated any provision of this Act, or which may aid in the enforcement of the provisions of this Act. Except as provided in section 12 and in subsection (b) of this section, the Secretary shall utilize the bureaus and divisions of the Department of Labor for all the investigations and inspections necessary under this section. Except as provided in section 12, the Secretary shall bring all actions under section 17 to restrain violations of this Act.

(b) With the consent and cooperation of State agencies charged with the administration of State labor laws, the Secretary of Labor may, for the purpose of carrying out his functions and duties under this Act, utilize the services of State and local agencies and their employees and, notwithstanding any other provision of law, may reimburse such State and local agencies and their employees for services rendered for such purposes.

(c) Every employer subject to any provision of this Act or of any order issued under this Act shall make, keep, and preserve such records of the persons employed by him and of the wages, hours, and other conditions and practices of employment maintained by him, and shall preserve such records for such period of time, and shall make such reports therefrom to the Secretary as he shall prescribe by regulation or order as necessary or appropriate for the enforcement of the provisions of this Act or the regulations

or orders thereunder. The employer of an employee who performs substitute work described in section 7(p)(3) may not be required under this subsection to keep a record of the hours of the substitute work.

(d) The Secretary is authorized to make such regulations and orders regulating, restricting, or prohibiting industrial homework as are necessary or appropriate to prevent the circumvention or evasion of and to safeguard the minimum wage rate prescribed in this Act, and all existing regulations or orders of the Administration relating to industrial homework are hereby continued in full force and effect.

[29 U.S.C. 211] Enacted June 25, 1938, ch. 676, sec. 11, 52 Stat. 1066; amended October 26, 1949, ch. 736, sec. 9, 63 Stat. 916; amended November 13, 1985, P.L. 99–150, sec. 3(c)(2), 99 Stat. 789.

CHILD LABOR PROVISIONS

SEC. 12. (a) No producer, manufacturer, or dealer shall ship or deliver for shipment in commerce any goods produced in an establishment situated in the United States in or about which within thirty days prior to the removal of such goods therefrom any oppressive child labor has been employed: *Provided,* That any such shipment or delivery for shipment of such goods by a purchaser who acquired them in good faith in reliance on written assurance from the producer, manufacturer, or dealer that the goods were produced in compliance with the requirements of this section, and who acquired such goods for value without notice of any such violation, shall not be deemed prohibited by this subsection: *And provided further,* That a prosecution and conviction of a defendant for the shipment or delivery for shipment of any goods under the conditions herein prohibited shall be a bar to any further prosecution against the same defendant for shipments or deliveries for shipment of any such goods before the beginning of said prosecution.

(b) The Secretary of Labor, or any of his authorized representatives, shall make all investigations and inspections under section 11(a) with respect to the employment of minors, and, subject to the direction and control of the Attorney General, shall bring all actions under section 17 to enjoin any act or practice which is unlawful by reason of the existence of oppressive child labor, and shall administer all other provisions of this Act relating to oppressive child labor.

(c) No employer shall employ any oppressive child labor in commerce or in the production of goods for commerce or in any enterprise engaged in commerce or in the production of goods for commerce.

(d) In order to carry out the objectives of this section, the Secretary may by regulation require employers to obtain from any employee proof of age.

[29 U.S.C. 212] Enacted June 25, 1938, ch. 676, sec. 12, 52 Stat. 1067; amended October 26, 1949, ch. 736, sec. 10, 63 Stat. 917; amended May 5, 1961, P.L. 87–30, sec. 8, 75 Stat. 70; amended April 8, 1974, P.L. 93–259, sec. 25(a), 88 Stat. 72.

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EXEMPTIONS

SEC. 13. (a) The provisions of sections 6 (except section 6(d) in the case of paragraph (1) of this subsection) and 7 shall not apply with respect to—

(1) any employee employed in a bona fide executive, administrative, or professional capacity (including any employee employed in the capacity of academic administrative personnel or teacher in elementary or secondary schools), or in the capacity of outside salesman (as such terms are defined and delimited from time to time by regulations of the Secretary, subject to the provisions of the Administrative Procedure Act, except that an employee of a retail or service establishment shall not be excluded from the definition of employee employed in a bona fide executive or administrative capacity because of the number of hours in his workweek which he devotes to activities not directly or closely related to the performance of executive or administrative activities, if less than 40 per centum of his hours worked in the workweek are devoted to such activities); or

[(2) Repealed effective November 17, 1989.]

(3) any employee employed by an establishment which is an amusement or recreational establishment, organized camp, or religious or non-profit educational conference center, if (A) it does not operate for more than seven months in any calendar year, or (B) during the preceding calendar year, its average receipts for any six months of such year were not more than 33⅓ per centum of its average receipts for the other six months of such year, except that the exemption from sections 6 and 7 provided by this paragraph does not apply with respect to any employee of a private entity engaged in providing services or facilities (other than, in the case of the exemption from section 6, a private entity engaged in providing services and facilities directly related to skiing) in a national park or a national forest, or on land in the National Wildlife Refuge System, under a contract with the Secretary of the Interior or the Secretary of Agriculture; or

[(4) Repealed effective November 17, 1989.]

(5) any employee employed in the catching, taking, propagating, harvesting, cultivating, or farming of any kind of fish, shellfish, crustacea, sponges, seaweeds, or other acquatic forms of animal and vegetable life, or in the first processing, canning or packing such marine products at sea as an incident to, or in conjunction with, such fishing operations, including the going to and returning from work and loading and unloading when performed by any such employee; or

(6) any employee employed in agriculture (A) if such employee is employed by an employer who did not, during any calendar quarter during the preceding calendar year, use more than five hundred man-days of agricultural labor, (B) if such employee is the parent, spouse, child, or other member of his employer's immediate family, (C) if such employee (i) is employed as a hand harvest laborer and is paid on a piece rate basis in an operation which has been, and is customarily and

generally recognized as having been, paid on a piece rate basis in the region of employment, (ii) commutes daily from his permanent residence to the farm on which he is so employed, and (iii) has been employed in agriculture less than thirteen weeks during the preceding calendar year, (D) if such employee (other than an employee described in clause (C) of this subsection) (i) is sixteen years of age or under and is employed as a hand harvest laborer, is paid on a piece rate basis in an operation which has been, and is customarily and generally recognized as having been, paid on a piece rate basis in the region of employment, (ii) is employed on the same farm as his parent or person standing in the place of his parent, and (iii) is paid at the same piece rate as employees over age sixteen are paid on the same farm, or (E) if such employee is principally engaged in the range production of livestock; or

(7) any employee to the extent that such employee is exempted by regulations, order, or certificate of the Secretary issued under section 14; or

(8) any employee employed in connection with the publication of any weekly, semiweekly, or daily newspaper with a circulation of less than four thousand the major part of which circulation is within the county where published or counties contiguous thereto; or

[(9) Repealed effective May 1, 1974.]

(10) any switchboard operator employed by an independently owned public telephone company which has not more than seven hundred and fifty stations; or

[(11) Repealed effective May 1, 1974.]

(12) any employee, employed as a seaman on a vessel other than an American vessel; or

[(13) Repealed effective May 1, 1974.]

[(14) Repealed effective May 1, 1974.]

(15) any employee employed on a casual basis in domestic service employment to provide babysitting services or any employee employed in domestic service employment to provide companionship services for individuals who (because of age or infirmity) are unable to care for themselves (as such terms are defined and delimited by regulations of the Secretary); or

(16) a criminal investigator who is paid availability pay under section 5545a of title 5, United States Code;

(17) any employee who is a computer systems analyst, computer programmer, software engineer, or other similarly skilled worker, whose primary duty is—

(A) the application of systems analysis techniques and procedures, including consulting with users, to determine hardware, software, or system functional specifications;

(B) the design, development, documentation, analysis, creation, testing, or modification of computer systems or programs, including prototypes, based on and related to user or system design specifications;

(C) the design, documentation, testing, creation, or modification of computer programs related to machine operating systems; or

(D) a combination of duties described in subparagraphs (A), (B), and (C) the performance of which requires the same level of skills, and

who, in the case of an employee who is compensated on an hourly basis, is compensated at a rate of not less than $27.63 an hour; or

(18) any employee who is a border patrol agent, as defined in section 5550(a) of title 5, United States Code; or

(19) any employee employed to play baseball who is compensated pursuant to a contract that provides for a weekly salary for services performed during the league's championship season (but not spring training or the off season) at a rate that is not less than a weekly salary equal to the minimum wage under section 6(a) for a workweek of 40 hours, irrespective of the number of hours the employee devotes to baseball related activities.

(b) The provisions of section 7 shall not apply with respect to—

(1) any employee with respect to whom the Secretary of Transportation has power to establish qualifications and maximum hours of service pursuant to the provisions of section 204 of the Motor Carrier Act, 1935; or

(2) any employee of an employer engaged in the operation of a rail carrier subject to part A of subtitle IV of title 49, United States Code; or

(3) any employee of a carrier by air subject to the provisions of title II of the Railway Labor Act; or

[(4) Repealed effective May 1, 1976.]

(5) any individual employed as an outside buyer of poultry, eggs, cream, or milk, in their raw or natural state; or

(6) any employee employed as a seaman; or

[(7) Repealed effective May 1, 1976.]

[(8) Repealed effective January 1, 1979.]

(9) any employee employed as an announcer, news editor, or chief engineer by a radio or television station the major studio of which is located (A) in a city or town of one hundred thousand population or less, according to the latest available decennial census figures as complied by the Bureau of the Census, except where such city or town is part of a standard metropolitan statistical area, as defined and designated by the Bureau of the Budget, which has a total population in excess of one hundred thousand, or (B) in a city or town or twenty-five thousand population or less, which is part of such an area but is at least 40 airline miles from the principal city in such area; or

(10) A any salesman, partsman, or mechanic primarily engaged in selling or servicing automobiles, trucks, or farm implements, if he is employed by a nonmanufacturing establishment primarily engaged in the business of selling such vehicles or implements to utlimate purchasers; or

(B) any salesman primarily engaged in selling trailers, boats, or aircraft, if he is employed by a nonmanufacturing establishment primarily engaged in the business of selling trailers, boats, or aircraft to ultimate purchasers; or

(11) any employee employed as a driver or drivers' helper making local deliveries, who is compensated for such employment on the basis of trip rates, or other delivery payment plan, if the Secretary shall find that such plan has the general purpose and effect of reducing hours worked by such employees to, or below, the maximum workweek applicable to them under section 7(a); or

(12) any employee employed in agriculture or in connection with the operation or maintenance of ditches, canals, reservoirs, or waterways, not owned or operated for profit, or operated on a sharecrop basis, and which are used exclusively for supply and storing of water, at least 90 percent of which was ultimately delivered for agricultural purposes during the preceding calendar year; or

(13) any employee with respect to his employment in agriculture by a farmer, notwithstanding other employment of such employee in connection with livestock auction operations in which such farmer is engaged as an adjunct to the raising of livestock, either on his own account or in conjunction with other farmers, if such employee (A) is primarily employed during his workweek in agriculture by such farmer, and (B) is paid for his employment in connection with such livestock auction operations at a wage rate not less than that prescribed by section 6(a)(1); or

(14) any employee employed within the area of production (as defined by the Secretary) by an establishment commonly recognized as a country elevator, including such an establishment which sells products and services used in the operation of a farm, if no more than five employees are employed in the establishment in such operations; or

(15) any employee engaged in the processing of maple sap into sugar (other than refined sugar) or syrup; or

(16) any employee engaged (A) in the transportation and preparation for transportation of fruits or vegetables, whether or not performed by the farmer, from the farm to a place of first processing or first marketing within the same State, or (B) in transportation, whether or not performed by the farmer, between the farm and any point within the same State of persons employed or to be employed in the harvesting of fruits or vegetables; or

(17) any driver employed by an employer engaged in the business of operating taxicabs; or

[(18) Repealed effective May 1, 1976.]

[(19) Repealed effective May 1, 1976.]

(20) any employee of a public agency who in any workweek is employed in fire protection activities or any employee of a public agency who in any workweek is employed in law enforcement activities (including security personnel in correctional institutions), if the public agency employs during the workweek less than 5 employees in fire protection or law enforcement activities, as the case may be; or

(21) any employee who is employed in domestic service in a household and who resides in such household; or

[(22) Repealed effective November 1, 1977.]

[(23) Repealed effective May 1, 1976.]

(24) any employee who is employed with his spouse by a nonprofit educational institution to serve as the parents of children—

(A) who are orphans or one of whose natural parents is decreased, or[5]

(B) who are enrolled in such institution and reside in residential factilities of the institution.

while such children are in residence at such institution, if such employee and his spouse reside in such facilities, receive, without cost, board and lodging from such institution, and are together compensated, on a cash basis, at an annual rate of not less than $10,000; or

[(25) Repealed effective November 1, 1977.]

[(26) Repealed effective November 1, 1977.]

(27) any employee employed by an establishment which is a motion picture theater; or

(28) any employee employed in planting or tending trees, cruising, surveying, or felling timber, or in preparing, or transporting logs or other forestry products to the mill, processing plant, railroad, or other transportation terminal, if the number of employees employed by his employer in such forestry or lumbering operations does not exceed eight;

(29) any employee of an amusement or recreational establishment located in a national park or national forest or on land in the National Wildlife Refuge System if such employee (A) is an employee of a private entity engaged in providing services or facilities in a national park or national forest, or on land in the National Wildlife Refuge System, under a contract with the Secretary of the Interior or the Secretary of Agriculture, and (B) receives compensation for employment in excess of fifty-six hours in any workweek at a rate not less than one and one-half times the regular rate at which he is employed; or

(30) a criminal investigator who is paid availability pay under section 5545a of title 5, United States Code.

(c)(1) Except as provided in paragraph (2) or (4), the provisions of section 12 relating to child labor shall not apply to any employee employed in agriculture outside of school hours for the school district where such employee is living while he is so employed, if such employee—

(A) is less than twelve years of age and (i) is employed by his parent, or by a person standing in the place of his parent, on a farm owned or operated by such parent or person, or (ii) is employed with the consent of his parent or person standing in the place of his parent, on a farm, none of the employees of which are (because of section 13(a)(6)(A)) required to be paid at the wage rate prescribed by section 6(a)(5),

(B) is twelve years or thirteen years of age and (i) such employment is with the consent of his parent or person standing in the place of his parent, or (ii) his parent or such person is employed on the same farm as such employee, or

[5]Error in law; should read "and".

(C) is fourteen years of age or older.

(2) The provisions of section 12 relating to child labor shall apply to an employee below the age of sixteen employed in agriculture in an occupation that the Secretary of Labor finds and declares to be particularly hazardous for the employment of children below the age of sixteen, except where such employee is employed by his parent or by a person standing in the place of his parent on a farm owned or operated by such parent or person.

(3) The provisions of section 12 relating to child labor shall not apply to any child employed as an actor or performer in motion pictures or theatrical productions, or in radio or television productions.

(4)(A) An employer or group of employers may apply to the Secretary for a waiver of the application of section 12 to the employment for not more than eight weeks in any calendar year of individuals who are less than twelve years of age, but not less than ten years of age, as hand harvest laborers in an agricultural operation which has been, and is customarily and generally recognized as being, paid on a piece rate basis in the region in which such individuals would be employed. The Secretary may not grant such a waiver unless he finds, based on objective data submitted by the applicant, that—

(i) the crop to be harvested is one with a particularly short harvesting season and the application of section 12 would cause severe economic disruption in the industry of the employer or group of employers applying for the wavier;

(ii) the employment of the individuals to whom the waiver would apply would not be deleterious to their health or well-being;

(iii) the level and type of pesticides and other chemicals used would not have an adverse effect on the health or well-being of the individuals to whom the waiver would apply;

(iv) individuals age twelve and above are not available for such employment; and

(v) the industry of such employer or group of employers has traditionally and substantially employed individuals under twelve years of age without displacing substantial job opportunities for individuals over sixteen years of age.

(B) Any waiver granted by the Secretary under subparagraph (A) shall require that—

(i) the individuals employed under such waiver be employed outside of school hours for the school district where they are living while so employed;

(ii) such individuals while so employed commute daily from their permanent residence to the farm on which they are so employed; and

(iii) such individuals be employed under such waiver (I) for not more than eight weeks between June 1 and October 15 of any calendar year, and (II) in accordance with such other terms and conditions as the Secretary shall prescribe for such individuals' protection.

(5)(A) In the administration and enforcement of the child labor provisions of this Act, employees who are 16 and 17 years of age

shall be permitted to load materials into, but not operate or unload materials from, scrap paper balers and paper box compactors—

(i) that are safe for 16- and 17-year-old employees loading the scrap paper balers or paper box compactors; and

(ii) that cannot be operated while being loaded.

(B) For purposes of subparagraph (A), scrap paper balers and paper box compactors shall be considered safe for 16- or 17-year-old employees to load only if—

(i)(I) the scrap paper balers and paper box compactors meet the American National Standards Institute's Standard ANSI Z245.5–1990 for scrap paper balers and Standard ANSI Z245.2–1992 for paper box compactors; or

(II) the scrap paper balers and paper box compactors meet an applicable standard that is adopted by the American National Standards Institute after the date of enactment of this paragraph and that is certified by the Secretary to be at least as protective of the safety of minors as the standard described in subclause (I);

(ii) the scrap paper balers and paper box compactors include an on-off switch incorporating a key-lock or other system and the control of the system is maintained in the custody of employees who are 18 years of age or older;

(iii) the on-off switch of the scrap paper balers and paper box compactors is maintained in an off position when the scrap paper balers and paper box compactors are not in operation; and

(iv) the employer of 16- and 17-year-old employees provides notice, and posts a notice, on the scrap paper balers and paper box compactors stating that—

(I) the scrap paper balers and paper box compactors meet the applicable standard described in clause (i);

(II) 16- and 17-year-old employees may only load the scrap paper balers and paper box compactors; and

(III) any employee under the age of 18 may not operate or unload the scrap paper balers and paper box compactors.

The Secretary shall publish in the Federal Register a standard that is adopted by the American National Standards Institute for scrap paper balers or paper box compactors and certified by the Secretary to be protective of the safety of minors under clause (i)(II).

(C)(i) Employers shall prepare and submit to the Secretary reports—

(I) on any injury to an employee under the age of 18 that requires medical treatment (other than first aid) resulting from the employee's contact with a scrap paper baler or paper box compactor during the loading, operation, or unloading of the baler or compactor; and

(II) on any fatality of an employee under the age of 18 resulting from the employee's contact with a scrap paper baler or paper box compactor during the loading, operation, or unloading of the baler or compactor.

(ii) The reports described in clause (i) shall be used by the Secretary to determine whether or not the implementation of subparagraph (A) has had any effect on the safety of children.

(iii) The reports described in clause (i) shall provide—

(I) the name, telephone number, and address of the employer and the address of the place of employment where the incident occurred;

(II) the name, telephone number, and address of the employee who suffered an injury or death as a result of the incident;

(III) the date of the incident;

(IV) a description of the injury and a narrative describing how the incident occurred; and

(V) the name of the manufacturer and the model number of the scrap paper baler or paper box compactor involved in the incident.

(iv) The reports described in clause (i) shall be submitted to the Secretary promptly, but not later than 10 days after the date on which an incident relating to an injury or death occurred.

(v) The Secretary may not rely solely on the reports described in clause (i) as the basis for making a determination that any of the employers described in clause (i) has violated a provision of section 12 relating to oppressive child labor or a regulation or order issued pursuant to section 12. The Secretary shall, prior to making such a determination, conduct an investigation and inspection in accordance with section 12(b).

(vi) The reporting requirements of this subparagraph shall expire 2 years after the date of enactment of this subparagraph.

(6) In the administration and enforcement of the child labor provisions of this Act, employees who are under 17 years of age may not drive automobiles or trucks on public roadways. Employees who are 17 years of age may drive automobiles or trucks on public roadways only if—

(A) such driving is restricted to daylight hours;

(B) the employee holds a State license valid for the type of driving involved in the job performed and has no records of any moving violation at the time of hire;

(C) the employee has successfully completed a State approved driver education course;

(D) the automobile or truck is equipped with a seat belt for the driver and any passengers and the employee's employer has instructed the employee that the seat belts must be used when driving the automobile or truck;

(E) the automobile or truck does not exceed 6,000 pounds of gross vehicle weight;

(F) such driving does not involve—

(i) the towing of vehicles;

(ii) route deliveries or route sales;

(iii) the transportation for hire of property, goods, or passengers;

(iv) urgent, time-sensitive deliveries;

(v) more than two trips away from the primary place of employment in any single day for the purpose of delivering goods of the employee's employer to a customer (other than urgent, time-sensitive deliveries);

(vi) more than two trips away from the primary place of employment in any single day for the purpose of transporting passengers (other than employees of the employer);

(vii) transporting more than three passengers (including employees of the employer); or

(viii) driving beyond a 30 mile radius from the employee's place of employment; and

(G) such driving is only occasional and incidental to the employee's employment.

For purposes of subparagraph (G), the term "occasional and incidental" is no more than one-third of an employee's worktime in any workday and no more than 20 percent of an employee's worktime in any workweek.

(7)(A)(i) Subject to subparagraph (B), in the administration and enforcement of the child labor provisions of this Act, it shall not be considered oppressive child labor for a new entrant into the workforce to be employed inside or outside places of business where machinery is used to process wood products.

(ii) In this paragraph, the term "new entrant into the workforce" means an individual who—

(I) is under the age of 18 and at least the age of 14, and

(II) by statute or judicial order is exempt from compulsory school attendance beyond the eighth grade.

(B) The employment of a new entrant into the workforce under subparagraph (A) shall be permitted—

(i) if the entrant is supervised by an adult relative of the entrant or is supervised by an adult member of the same religious sect or division as the entrant;

(ii) if the entrant does not operate or assist in the operation of power-driven woodworking machines;

(iii) if the entrant is protected from wood particles or other flying debris within the workplace by a barrier appropriate to the potential hazard of such wood particles or flying debris or by maintaining a sufficient distance from machinery in operation; and

(iv) if the entrant is required to use personal protective equipment to prevent exposure to excessive levels of noise and saw dust.

(d) The provisions of sections 6, 7, and 12 shall not apply with respect to any employee engaged in the delivery of newspapers to the consumer or to any homemaker engaged in the making of wreaths composed principally of natural holly, pine, cedar, or other evergreens (including the harvesting of the evergreens or other forest products used in making such wreaths).

(e) The provisions of section 7 shall not apply with respect to employees for whom the Secretary of Labor is authorized to establish minimum wage rates as provided in section 6(a)(3), except with respect to employees for whom such rates are in effect; and with respect to such employees the Secretary may make rules and regulations providing reasonable limitations and allowing reasonable variations, tolerances, and exemptions to and from any or all of the provisions of section 7 if he shall find, after a public hearing on the matter, and taking into account the factors set forth in section 6(a)(3), that economic conditions warrant such action.

(f) The provisions of sections 6, 7, 11, and 12 shall not apply with respect to any employees whose services during the workweek are performed in a workplace within a foreign country or within territory under the jurisdiction of the United States other than the following: a State of the United States; the District of Columbia; Puerto Rico; the Virgin Islands; Outer Continental Shelf lands defined in the Outer Continental Shelf Lands Act (ch. 345, 67 Stat. 462); American Samoa; Guam; Wake Island; Eniwetok Atoll; Kwajalein Atoll; and Johnston Island.

(g) The exemption from section 6 provided by paragraph (6) of subsection (a) of this section shall not apply with respect to any employee employed by an establishment (1) which controls, is controlled by, or is under common control with, another establishment the activities of which are not related for a common business purpose to, but materially support the activities of the establishment employing such employee; and (2) whose annual gross volume of sales made or business done, when combined with the annual gross volume of sales made or business done by each establishment which controls, is controlled by, or is under common control with, the establishment employing such employee, exceeds $10,000,000 (exclusive of excise taxes at the retail level which are separately stated).

(h) The provisions of section 7 shall not apply for a period or periods of not more than fourteen workweeks in the aggregate in any calendar year to any employee who—

(1) is employed by such employer—

(A) exclusively to provide services necessary and incidental to the ginning of cotton in an establishment primarily engaged in the ginning of cotton;

(B) exclusively to provide services necessary and incidental to the receiving, handling, and storing of raw cotton and the compressing of raw cotton when performed at a cotton warehouse or compress-warehouse facility, other than one operated in conjunction with a cotton mill, primarily engaged in storing and compressing;

(C) exclusively to provide services necessary and incidental to the receiving, handling, storing, and processing of cottonseed in an establishment primarily engaged in the receiving, handling, storing, and processing of cottonseed; or

(D) exclusively to provide services necessary and incidental to the processing of sugar cane or sugar beets in an establishment primarily engaged in the processing of sugar cane or sugar beets; and

(2) receives for—

(A) such employment by such employer which is in excess of ten hours in any workday, and

(B) such employment by such employer which is in excess of forty-eight hours in any workweek,

compensation at a rate not less than one and one-half times the regular rate at which he is employes.

Any employer who receives an exemption under this subsection shall not be eligible for any other exemption under this section or section 7.

(i) The provisions of section 7 shall not apply for a period or periods of not more than fourteen workweeks in the aggregate in any period of fifty-two consecutive weeks to any employee who—

(1) is engaged in the ginning of cotton for market in any place of employment located in a county where cotton is grown in commercial quantities; and

(2) receives for any such employment during such workweek—

(A) in excess of ten hours in any workday, and

(B) in excess of forty-eight hours in any workweek, compensation at a rate not less than one and one-half times the regular rate at which he is employed. No week included in any fifty-two week period for purposes of the preceding sentence may be included for such purposes in any other fifty-two week period.

(j) The provisions of section 7 shall not apply for a period or periods of not more than fourteen workweeks in the aggregate in any period of fifty-two consecutive weeks to any employee who—

(1) is engaged in the processing of sugar beets, sugar beet molasses, or sugar cane into sugar (other than refined sugar) or syrup; and

(2) receives for any such employment during such workweeks—

(A) in excess of ten hours in any workday, and

(B) in excess of forty-eight hours in any workweek, compensation at a rate not less than one and one-half times the regular rate at which he is employed. No week included in any fifty-two week period for purposes of the preceding sentence may be included for such purposes in any other fifty-two week period.

[29 U.S.C. 213] Enacted June 25, 1938, ch. 676, sec. 13, 52 Stat. 1067; amended August 9, 1939, ch. 605, sec. 1, 53 Stat. 1266; amended October 26, 1949, ch. 736, sec. 11, 63 Stat. 917; amended August 8, 1956, ch. 1035, sec. 3, 70 Stat. 1118; amended August 30, 1957, P.L. 85–231, sec. 1(1), 71 Stat. 514; amended July 12, 1960, P.L. 86–624, sec. 21(b), 74 Stat. 417; amended May 5, 1961, P.L. 87–30, secs. 9, 10, 75 Stat. 71, 74; amended September 23, 1966, P.L. 89–601, title II, secs. 201–204(a), (b), 205–212(a) 213–215(b), (c), 80 Stat. 833–838; amended October 15, 1966, P.L. 89–670, sec. 8(e), 80 Stat. 943; amended June 23, 1972, P.L. 92–318, title IX, sec. 906(b)(1), 86 Stat. 375; amended April 8, 1974, P.L. 93–259, secs. 6(c)(2), 7(b)(3), (4), 8, 9(b), 10, 11, 12(a), 13(a)–(c), 14–18, 20(a)–(c), 21(b), 22, 23, 25(b), 88 Stat. 61–69, 72; amended November 1, 1977, P.L. 95–151, secs. 4–8, 9(d), 11, 14, 91 Stat. 1249, 1250–1252; amended September 27, 1979, P.L. 96–70, title I, sec. 1225(a), 93 Stat. 468; amended November 17, 1989, P.L. 101–157, sec. 3(c), 103 Stat. 939; amended December 29, 1995, P.L. 104–88, sec. 340, 109 Stat. 955; amended August 6, 1996, P.L. 104–174, sec. 1, 110 Stat. 1553; amended August 20, 1996, P.L. 104–188, sec. 2105(a), 110 Stat. 1929; amended November 13, 1997, P.L. 105–78, sec. 105, 111 Stat. 1477; amended October 31, 1998, P.L. 105–334, sec. 2(a), 112 Stat. 3137.

LEARNERS, APPRENTICES, STUDENTS, AND HANDICAPPED WORKERS

SEC. 14. (a) The Secretary, to the extent necessary in order to prevent curtailment of opportunities for employment, shall by regulations or by orders provide for the employment of learners, of apprentices, and messengers employed primarily in delivering letters and messages, under special certificates issued pursuant to regulations of the Secretary, at such wages lower than the minimum wage applicable under section 6 and subject to such limitations as

to time, number, proportion, and length of service as the Secretary shall prescribe.

(b)(1)(A) The Secretary, to the extent necessary in order to prevent curtailment of opportunities for employment, shall by special certificate issued under a regulation or order provide, in accordance with subparagraph (B), for the employment, at a wage rate not less than 85 per centum of the otherwise applicable wage rate in effect under section 6 or not less than $1.60 an hour, whichever is the higher, of full-time students (regardless of age but in compliance with applicable child labor laws) in retail or service establishments.

(B) Except as provided in paragraph (4)(B), during any month in which full-time students are to be employed in any retail or service establishment under certificates issued under this subsection the proportion of student hours of employment to the total hours of employment of all employees in such establishment may not exceed—

(i) in the case of a retail or service establishment whose employees (other than employees engaged in commerce or in the production of goods for commerce) were covered by this Act before the effective date of the Fair Labor Standards Amendments of 1974—

(I) the proportion of student hours of employment to the total hours of employment of all employees in such establishment for the corresponding month of the immediately preceding twelve-month period,

(II) the maximum proportion for any corresponding month of student hours of employment to the total hours of employment of all employees in such establishment applicable to the issuance of certificates under this section at any time before the effective date of the Fair Labor Standards Amendments of 1974 for the employment of students by such employer, or

(III) a proportion equal to one-tenth of the total hours of employment of all employees in such establishment,

whichever is greater;

(ii) in the case of retail or service establishment whose employees (other than employees engaged in commerce or in the production of goods for commerce) are covered for the first time on or after the effective date of the Fair Labor Standards Amendments of 1974—

(I) the proportion of hours of employment of students in such establishment to the total hours of employment of all employees in such establishment for the corresponding month of the twelve-month period immediately prior to the effective date of such Amendments,

(II) the proportion of student hours of employment to the total hours of employment of all employees in such establishment for the corresponding month of immediately preceding twelve-month period, or

(III) a proportion equal to one-tenth of the total hours of employment of all employees in such establishment,

whichever is greater; or

(iii) in the case of a retail or service establishment for which records of student hours worked are not available, the

proportion of students hours of employment to the total hours of employment of all employees based on the practice during the immediately preceding twelve-month period in (I) similar establishments of the same employer in the same general metropolitan area in which such establishment is located, (II) similar establishments of the same or nearby communities if such establishment is not in a metropolitan area, or (III) other establishments of the same general character operating in the community or the nearest comparable community.

For purpose of clauses (i), (ii), and (iii) of this subparagraph, the term "student hours of employment" means hours during which students are employed in a retail or service establishment under certificates issued under this subsection.

(2) The Secretary, to the extent necessary in order to prevent curtailment of opportunities for employment, shall by special certificate issued under a regulation or order provide for the employment, at a wage rate not less than 85 per centum of the wage rate in effect under section 6(a)(5) or not less than $1.30 an hour, whichever is the higher, of full-time students (regardless of age but in compliance with applicable child labor laws) in any occupation in agriculture.

(3) The Secretary, to the extent necessary in order to prevent curtailment of opportunities for employment, shall by special certificate issued under a regulation or order provide for the employment by an institution of higher education, at a wage rate not less than 85 per centum of the otherwise applicable wage rate in effect under section 6 or not less than $1.60 an hour, whichever is the higher, of full-time students (regardless of age but in compliance with applicable child labor laws) who are enrolled in such institution. The Secretary shall by regulation prescribe standards and requirements to insure that this paragraph will not create a substantial probability of reducing the full-time employment opportunities of persons other than those to whom the minimum wage rate authorized by this paragraph is applicable.

(4)(A) A special certificate issued under paragraph (1), (2), or (3) shall provide that the student or students for whom it is issued shall, except during vacation periods, be employed on a part-time basis and not in excess of twenty hours in any workweek.

(B) If the issuance of a special certificate under paragraph (1) or (2) for an employer will cause the number of students employed by such employer under special certificates issued under this subsection to exceed six, the Secretary may not issue such a special certificate for the employment of a student by such employer unless the Secretary finds employment of such student will not a create a substantial probability of reducing the full-time employment opportunities of persons other than those employed under special certificates issued under this subsection. If the issuance of a special certificate under paragraph (1) or (2) for an employer will not cause the number of students employed by such employer under special certificates issued under this subsection to exceed six—

(i) the Secretary may issue a special certificate under paragraph (1) or (2) for the employment of a student by such employer if such employer certifies to the Secretary that the employment of such student will not reduce the full-time employ-

ment opportunities of persons other than those employed under special certificates issued under this subsection, and

(ii) in the case of an employer which is a retail or service establishment, subparagraph (B) of paragraph (1) shall not apply with respect to the issuance of special certificates for such employer under such paragraph.

The requirement of this subparagraph shall not apply in the case of the issuance of special certificates under paragraph (3) for the employment of full-time students by institutions of higher education; except that if the Secretary determines that an institution of higher education is employing students under certificates issued under paragraph (3) but in violation of the requirements of that paragraph or of regulations issued thereunder, the requirements of this subparagraph shall apply with respect to the issuance of special certificates under paragraph (3) for the employment of students by such institution.

(C) No special certificate may be issued under this subsection unless the employer for whom the certificate is to be issued provides evidence satisfactory to the Secretary of the student status of the employees to be employed under such special certificate.

(D) To minimize paperwork for, and to encourage, small businesses to employ students under special certificates issued under paragraphs (1) and (2), the Secretary shall, by regulation or order, prescribe a simplified application form to be used by employers in applying for such a certificate for the employment of not more than six full-time students. Such an application shall require only—

(i) a listing of the name, address, and business of the applicant employer,

(ii) a listing of the date the applicant began business, and

(iii) the certification that the employment of such full-time students will not reduce the full-time employment opportunities of persons other than persons employed under special certificates.

(c)(1) The Secretary, to the extent necessary to prevent curtailment of opportunities for employment, shall by regulation or order provide for the employment, under special certificates, of individuals (including individuals employed in agriculture) whose earning or productive capacity is impaired by age, physical or mental deficiency, or injury, at wages which are—

(A) lower than the minimum wage applicable under section 6,

(B) commensurate with those paid to nonhandicapped workers, employed in the vicinity in which the individuals under the certificates are employed, for essentially the same type, quality, and quantity of work, and

(C) related to the individual's productivity.

(2) The Secretary shall not issue a certificate under paragraph (1) unless the employer provides written assurances to the Secretary that—

(A) in the case of individuals paid on an hourly rate basis, wages paid in accordance with paragraph (1) will be reviewed by the employer at periodic intervals at least once every 6 months, and

(B) wages paid in accordance with paragraph (1) will be adjusted by the employer at periodic intervals, at least once each year, to reflect changes in the prevailing wage paid to experienced nonhandicapped individuals employed in the locality for essentially the same type of work.

(3) Notwithstanding paragraph (1), no employer shall be permitted to reduce the hourly wage rate prescribed by certificate under this subsection in effect on June 1, 1986, of any handicapped individual for a period of two years from such date without prior authorization of the Secretary.

(4) Nothing in this subsection shall be construed to prohibit an employer from maintaining or establishing work activities centers to provide therapeutic activities for handicapped clients.

(5)(A) Notwithstanding any other provision of this subsection, any employee receiving a special minimum wage at a rate specified pursuant to this subsection or the parent or guardian of such an employee may petition the Secretary to obtain a review of such special minimum wage rate. An employee or the employee's parent or guardian may file such a petition for and in behalf of the employee or in behalf of the employee and other employees similarly situated. No employee may be a party to any such action unless the employee or the employee's parent or guardian gives consent in writing to become such a party and such consent is filed with the Secretary.

(B) Upon receipt of a petition filed in accordance with subparagraph (A), the Secretary within 10 days shall assign the petition to an administrative law judge appointed pursuant to section 3105 of title 5, United States Code. The administrative law judge shall conduct a hearing on the record in accordance with section 554 of title 5, United States Code, with respect to such petition within 30 days after assignment.

(C) In any such proceeding, the employer shall have the burden of demonstrating that the special minimum wage rate is justified as necessary in order to prevent curtailment of opportunities for employment.

(D) In determining whether any special minimum wage rate is justified pursuant to subparagraph (C), the administrative law judge shall consider—

(i) the productivity of the employee or employees identified in the petition and the conditions under which such productivity was measured; and

(ii) the productivity of other employees performing work of essentially the same type and quality for other employers in the same vicinity.

(E) The administrative law judge shall issue a decision within 30 days after the hearing provided for in subparagraph (B). Such action shall be deemed to be a final agency action unless within 30 days the Secretary grants a request to review the decision of the administrative law judge. Either the petitioner or the employer may request review by the Secretary within 15 days of the date of issuance of the decision by the administrative law judge.

(F) The Secretary, within 30 days after receiving a request for review, shall review the record and either adopt the decision of the administrative law judge or issue exceptions. The decision of the

administrative law judge, together with any exceptions, shall be deemed to be a final agency action.

(G) A final agency action shall be subject to judicial review pursuant to chapter 7 of title 5, United States Code. An action seeking such review shall be brought within 30 days of a final agency action described in subparagraph (F).

(d) The Secretary may by regulation or order provide that sections 6 and 7 shall not apply with respect to the employment by any elementary or secondary school of its students if such employment constitutes as determined under regulations prescribed by the Secretary, an integral part of the regular education program provided by such school and such employment is in accordance with applicable child labor laws.

[29 U.S.C. 214] Enacted June 25, 1938, ch. 676, sec. 14, 52 Stat. 1068; amended October 26, 1949, ch. 736, sec. 12, 63 Stat. 916; amended May 5, 1961, P.L. 87–30, sec. 11, 75 Stat. 74; amended September 23, 1966, P.L. 89–601, title V, sec. 501, 80 Stat. 842; amended April 8, 1974, P.L. 93–259, sec. 24 (a), (b), 88 Stat. 69, 72; amended November 1, 1977, P.L. 95–151, secs. 12, 13, 91 Stat. 1252; amended October 16, 1986, P.L. 99–486, sec. 1, 100 Stat. 1229; amended November 17, 1989, P.L. 101–167, sec. 4(d), 103 Stat. 941.

PROHIBITED ACTS

SEC. 15. (a) After the expiration of one hundred and twenty days from the date of enactment of this Act, it shall be unlawful for any person—

(1) to transport, offer for transportation, ship, deliver, or sell in commerce, or to ship, deliver, or sell with knowledge that shipment or delivery or sale thereof in commerce is intended, any goods in the production of which any employee was employed in violation of section 6 or section 7, or in violation of any regulation or order of the Secretary of Labor issued under section 14; except that no provision of this Act shall impose any liability upon any common carrier for the transportation in commerce in the regular course of its business of any goods not produced by such common carrier, and no provision of this Act shall excuse any common carrier from its obligation to accept any goods for transportation; and except that any such transportation, offer, shipment, delivery, or sale of such goods by a purchaser who acquired them in good faith in reliance on written assurance from the producer that the goods were produced in compliance with the requirements of the Act, and who acquired such goods for value without notice of any such violation, shall not be deemed unlawful;

(2) to violate any of the provisions of section 6 or section 7, or any of the provisions of any regulation or order of the Secretary issued under section 14;

(3) to discharge or in any other manner discriminate against any employee because such employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to this Act, or has testified or is about to testify in any such proceeding, or has served or is about to serve on an industry committee;

(4) to violate any of the provisions of section 12;

(5) to violate any of the provisions of section 11(c) or any regulation or order made or continued in effect under the provisions of section 11(d), or to make any statement, report, or record filed or kept pursuant to the provisions of such section or of any regulation or order thereunder, knowing such statement, report, or record to be false in a material respect; and

(6) to violate any of the provisions of section 18D.

(b) For the purposes of subsection (a)(1) proof that any employee was employed in any place of employment where goods shipped or sold in commerce were produced, within ninety days prior to the removal of the goods from such place of employment, shall be prima facie evidence that such employee was engaged in the production of such goods.

[29 U.S.C. 215] Enacted June 25, 1938, ch. 676, sec. 15, 52 Stat. 1068; amended October 26, 1949, ch. 736, sec. 13, 63 Stat. 919.

PENALTIES

SEC. 16. (a) Any person who willfully violates any of the provisions of section 15 shall upon conviction thereof be subject to a fine of not more than $10,000, or to imprisonment for not more than six months, or both. No person shall be imprisoned under this subsection except for an offense committed after the conviction of such person for a prior offense under this subsection.

(b) Any employer who violates the provisions of section 6 or section 7 of this Act shall be liable to the employee or employees affected in the amount of their unpaid minimum wages, or the unpaid overtime compensation, as the case may be, and in an additional equal amount as liquidated damages. Any employer who violates the provisions of section 15(a)(3) or 18D of this Act shall be liable for such legal or equitable relief as may be appropriate to effectuate the purposes of section 15(a)(3) or 18D, including without limitation employment, reinstatement, promotion, and the payment of wages lost and an additional equal amount as liquidated damages. Any employer who violates section 3(m)(2)(B) shall be liable to the employee or employees affected in the amount of the sum of any tip credit taken by the employer and all such tips unlawfully kept by the employer, and in an additional equal amount as liquidated damages. An action to recover the liability prescribed in the preceding sentences may be maintained against any employer (including a public agency) in any Federal or State court of competent jurisdiction by any one or more employees for and in behalf of himself or themselves and other employees similarly situated. No employees shall be a party plaintiff to any such action unless he gives his consent in writing to become such a party and such consent is filed in the court in which such action is brought. The court in such action shall, in addition to any judgment awarded to the plaintiff or plaintiffs, allow a reasonable attorney's fee to be paid by the defendant, and costs of the action. The right provided by this subsection to bring an action by or on behalf of any employee, and the right of any employee to become a party plaintiff to any such action, shall terminate upon the filing of a complaint by the Secretary of Labor in an action under section 17 in which (1) restraint is sought of any further delay in the payment of un-

paid minimum wages, or the amount of unpaid overtime compensation, as the case may be, owing to such employee under section 6 or section 7 of this act by an employer liable therefor under the provisions of this subsection or (2) legal or equitable relief is sought as a result of alleged violations of section 15(a)(3) or 18D.

(c) The Secretary is authorized to supervise the payment of the unpaid minimum wages or the unpaid overtime compensation owing to any employee or employees under section 6 or 7 of this Act, and the agreement of any employee to accept such payment shall upon payment in full constitute a waiver by such employee of any right he may have under subsection (b) of this section to such unpaid minimum wages or unpaid overtime compensation and an additional equal amount as liquidated damages. The Secretary may bring an action in any court of competent jurisdiction to recover the amount of the unpaid minimum wages or overtime compensation and an equal amount as liquidated damages. The right provided by subsection (b) to bring an action by or on behalf of any employee to recover the liability specified in the first sentence of such subsection and of any employee to become a party plaintiff to any such action shall terminate upon the filing of a complaint by the Secretary in an action under this subsection in which a recovery is sought of unpaid minimum wages or unpaid overtime compensation under sections 6 and 7 or liquidated or other damages provided by this subsection owing to such employee by an employer liable under the provisions of subsection (b), unless such action is dismissed without prejudice on motion of the Secretary. Any sums thus recovered by the Secretary on behalf of an employee pursuant to this subsection shall be held in a special deposit account and shall be paid, on order of the Secretary, directly to the employee or employees affected. Any such sums not paid to an employee because of inability to do so within a period of three years shall be covered into the Treasury of the United States as miscellaneous receipts. In determining when an action is commenced by the Secretary under this subsection for the purposes of the statutes of limitations provided in section 6(a) of the Portal-to-Portal Act of 1947, it shall be considered to be commenced in the case of any individual claimant on the date when the complaint is filed if he is specifically named as a party plaintiff in the complaint, or if his name did not so appear, on the subsequent date on which his name is added as a party plantiff in such action. The authority and requirements described in this subsection shall apply with respect to a violation of section 3(m)(2)(B), as appropriate, and the employer shall be liable for the amount of the sum of any tip credit taken by the employer and all such tips unlawfully kept by the employer, and an additional equal amount as liquidated damages.

(d) In any action or proceeding commenced prior to, on, or after the date of enactment of this subsection, no employer shall be subject to any liability or punishment under this Act or the Portal-to-Portal Act of 1947 on account of his failure to comply with any provision or provisions of such Acts (1) with respect to work heretofore or hereafter performed in a workplace to which the exemption in section 13(f) is applicable, (2) with respect to work performed in Guam, the Canal Zone, or Wake Island before the effective date of this amendment of subsection (d), or (3) with respect to work per-

formed in a possession named in section 6(a)(3) at any time prior to the establishment by the Secretary, as provided therein, of a minimum wage rate applicable to such work.

(e)(1)(A) Any person who violates the provisions of sections 12 or 13(c), relating to child labor, or any regulation issued pursuant to such sections, shall be subject to a civil penalty not to exceed—

(i)[6] $11,000 for each employee who was the subject of such a violation; or

(ii)[6] $50,000 with regard to each such violation that causes the death or serious injury of any employee under the age of 18 years, which penalty may be doubled where the violation is a repeated or willful violation.

(B) For purposes of subparagraph (A), the term "serious injury" means—

(i) permanent loss or substantial impairment of one of the senses (sight, hearing, taste, smell, tactile sensation);

(ii) permanent loss or substantial impairment of the function of a bodily member, organ, or mental faculty, including the loss of all or part of an arm, leg, foot, hand or other body part; or

(iii) permanent paralysis or substantial impairment that causes loss of movement or mobility of an arm, leg, foot, hand or other body part.

(2) Any person who repeatedly or willfully violates section 6 or 7, relating to wages, shall be subject to a civil penalty not to exceed $1,100 for each such violation. Any person who violates section 3(m)(2)(B) shall be subject to a civil penalty not to exceed $1,100 for each such violation, as the Secretary determines appropriate, in addition to being liable to the employee or employees affected for all tips unlawfully kept, and an additional equal amount as liquidated damages, as described in subsection (b).

(3) In determining the amount of any penalty under this subsection, the appropriateness of such penalty to the size of the business of the person charged and the gravity of the violation shall be considered. The amount of any penalty under this subsection, when finally determined, may be—

(A) deducted from any sums owing by the United States to the person charged;

(B) recovered in a civil action brought by the Secretary in any court of competent jurisdiction, in which litigation the Secretary shall be represented by the Solicitor of Labor; or

(C) ordered by the court, in an action brought for a violation of section 15(a)(4) or a repeated or willful violation of section 15(a)(2), to be paid to the Secretary.

(4) Any administrative determination by the Secretary of the amount of any penalty under this subsection shall be final, unless within 15 days after receipt of notice thereof by certified mail the person charged with the violation takes exception to the determination that the violations for which the penalty is imposed occurred, in which event final determination of the penalty shall be made in an administrative proceeding after opportunity for hearing in ac-

[6] Margins for clauses (i) and (ii) of subsection (e)(1)(A) so in law.

cordance with section 554 of title 5, United States Code, and regulations to be promulgated by the Secretary.

(5) Except for civil penalties collected for violations of section 12, sums collected as penalties pursuant to this section shall be applied toward reimbursement of the costs of determining the violations and assessing and collecting such penalties, in accordance with the provision of section 2 of the Act entitled "An Act to authorize the Department of Labor to make special statistical studies upon payment of the cost thereof and for other purposes" (29 U.S.C. 9a). Civil penalties collected for violations of section 12 shall be deposited in the general fund of the Treasury.

[29 U.S.C. 216] Enacted June 25, 1938, ch. 676, sec. 16, 52 Stat. 1069; amended May 14, 1947, ch. 52, sec. 5(a), 61 Stat. 87; amended October 26, 1949, ch. 736, sec. 14, 63 Stat. 919; amended August 8, 1956, ch. 1035, sec. 4, 70 Stat. 1118; amended August 30, 1957, P.L. 85-231, sec. 1(2), 71 Stat. 514; amended May 5, 1961, P.L. 87-30, sec. 12(a), 75 Stat. 74; amended September 23, 1966, P.L. 89-601, title VI, sec. 601(a), 80 Stat. 844; amended April 8, 1974, P.L. 93-259, secs. 6(d)(1), 25(c), 26, 88 Stat. 61, 72, 73; amended November 1, 1977, P.L. 95-151, sec. 10, 91 Stat.1252; amended November 17, 1989, P.L. 101-157, sec. 9, 103 Stat. 945; amended November 5, 1990. P.L. 101-508, sec. 3103, 104 Stat. 1388-29; amended August 6, 1996, P.L. 104-174, sec. 2, 110 Stat. 1554; amended May 21, 2008, P.L. 110-233, sec. 302(a), 122 Stat. 920.

INJUNCTION PROCEEDINGS

SEC. 17. The district courts, together with the United States District Court for the District of the Canal Zone, the District Court of the Virgin Islands, and the District Court of Guam shall have jurisdiction, for cause shown, to restrain violations of section 15, including in the case of violations of section 15(a)(2) the restraint of any withholding of payment of minimum wages or overtime compensation found by the court to be due to employees under this Act (except sums which employees are barred from recovering, at the time of the commencement of the action to restrain the violations, by virtue of the provisions of section 6 of the Portal-to-Portal Act of 1947).

[29 U.S.C. 217] Enacted June 25, 1938, ch. 676, sec. 17, 52 Stat. 1069; amended October 26, 1949, ch. 736, sec. 15, 63 Stat. 919; amended August 30, 1957, P.L. 85-231, sec. 1(3), 71 Stat. 514; amended July 12, 1960, P.L. 86-624, sec. 21(c), 74 Stat. 417; amended May 5, 1961, P.L. 87-30, sec. 12(b), 75 Stat. 74.

RELATION TO OTHER LAWS

SEC. 18. (a) No provision of this Act or of any order thereunder shall excuse noncompliance with any Federal or State law or municipal ordinance establishing a minimum wage higher than the minimum wage established under this Act or a maximum workweek lower than the maximum workweek established under this Act, and no provision of this Act relating to the employment of child labor shall justify noncompliance with any Federal or State law or municipal ordinance establishing a higher standard than the standard established under this Act. No provision of this Act shall justify any employer in reducing a wage paid by him which is in excess of the applicable minimum wage under this Act, or justify any employer in increasing hours of employment maintained by him which are shorter than the maximum hours applicable under this Act.

(b) Notwithstanding any other provision of this Act (other than section 13(f)) or any other law—

(1) any Federal employee in the Canal Zone engaged in employment of the kind described in section 5102(c)(7) of title 5, United States Code, and

(2) any employee employed in a nonappropriated fund instrumentality under the jurisdiction of the Armed Forces,

shall have his basic compensation fixed or adjusted at a wage rate that is not less than the appropriate wage rate provided for in section 6(a)(1) of this Act (except that the wage rate provided for in section 6(b) shall apply to any employee who performed services during the workweek in a work place within the Canal Zone), and shall have his overtime compensation set at an hourly rate not less than the overtime rate provided for in section 7(a)(1) of this Act.

[29 U.S.C. 218] Enacted June 25, 1938, ch. 676, sec. 18, 52 Stat. 1069; amended September 23, 1966, P.L. 89-601, title III, sec. 306, 80 Stat. 841; amended September 11, 1967, P.L. 90-83, sec. 8, 81 Stat. 222.

SEC. 18B. NOTICE TO EMPLOYEES.

(a) IN GENERAL.—In accordance with regulations promulgated by the Secretary, an employer to which this Act applies, shall provide to each employee at the time of hiring (or with respect to current employees, not later than March 1, 2013), written notice—

(1) informing the employee of the existence of an Exchange, including a description of the services provided by such Exchange, and the manner in which the employee may contact the Exchange to request assistance;

(2) if the employer plan's share of the total allowed costs of benefits provided under the plan is less than 60 percent of such costs, that the employee may be eligible for a premium tax credit under section 36B of the Internal Revenue Code of 1986 and a cost sharing reduction under section 1402 of the Patient Protection and Affordable Care Act if the employee purchases a qualified health plan through the Exchange; and

(3) if the employee purchases a qualified health plan through the Exchange, the employee may lose the employer contribution (if any) to any health benefits plan offered by the employer and that all or a portion of such contribution may be excludable from income for Federal income tax purposes.

(b) EFFECTIVE DATE.—Subsection (a) shall take effect with respect to employers in a State beginning on March 1, 2013.

[29 U.S.C. 218b] Enacted March 23, 2010, P.L. 111-148, sec. 1512, 124 Stat. 252; amended April 15, 2011, P.L. 112-10 [div. B1, sec. 1858(c), 125 Stat. 169.

SEC. 18C. PROTECTIONS FOR EMPLOYEES.

(a) PROHIBITION.—No employer shall discharge or in any manner discriminate against any employee with respect to his or her compensation, terms, conditions, or other privileges of employment because the employee (or an individual acting at the request of the employee) has—

(1) received a credit under section 36B of the Internal Revenue Code of 1986 or a subsidy under section 1402 of this Act;

(2) provided, caused to be provided, or is about to provide or cause to be provided to the employer, the Federal Government, or the attorney general of a State information relating

to any violation of, or any act or omission the employee reasonably believes to be a violation of, any provision of this title (or an amendment made by this title);

(3) testified or is about to testify in a proceeding concerning such violation;

(4) assisted or participated, or is about to assist or participate, in such a proceeding; or

(5) objected to, or refused to participate in, any activity, policy, practice, or assigned task that the employee (or other such person) reasonably believed to be in violation of any provision of this title (or amendment), or any order, rule, regulation, standard, or ban under this title (or amendment).

(b) COMPLAINT PROCEDURE.—

(1) IN GENERAL.—An employee who believes that he or she has been discharged or otherwise discriminated against by any employer in violation of this section may seek relief in accordance with the procedures, notifications, burdens of proof, remedies, and statutes of limitation set forth in section 2087(b) of title 15, United States Code.

(2) NO LIMITATION ON RIGHTS.—Nothing in this section shall be deemed to diminish the rights, privileges, or remedies of any employee under any Federal or State law or under any collective bargaining agreement. The rights and remedies in this section may not be waived by any agreement, policy, form, or condition of employment.

[29 U.S.C. 218c] Enacted March 23, 2010, P.L. 111–148, sec. 1558, 124 Stat. 261.

SEC. 18D. BREASTFEEDING ACCOMMODATIONS IN THE WORKPLACE.

(a) IN GENERAL.—An employer shall provide—

(1) a reasonable break time for an employee to express breast milk for such employee's nursing child for 1 year after the child's birth each time such employee has need to express the milk; and

(2) a place, other than a bathroom, that is shielded from view and free from intrusion from coworkers and the public, which may be used by an employee to express breast milk.

(b) COMPENSATION.—

(1) IN GENERAL.—Subject to paragraph (2), an employer shall not be required to compensate an employee receiving reasonable break time under subsection (a)(1) for any time spent during the workday for such purpose unless otherwise required by Federal or State law or municipal ordinance.

(2) RELIEF FROM DUTIES.—Break time provided under subsection (a)(1) shall be considered hours worked if the employee is not completely relieved from duty during the entirety of such break.

(c) EXEMPTION FOR SMALL EMPLOYERS.—An employer that employs less than 50 employees shall not be subject to the requirements of this section, if such requirements would impose an undue hardship by causing the employer significant difficulty or expense when considered in relation to the size, financial resources, nature, or structure of the employer's business.

(d) EXEMPTION FOR CREWMEMBERS OF AIR CARRIERS.—

(1) IN GENERAL.—An employer that is an air carrier shall not be subject to the requirements of this section with respect to an employee of such air carrier who is a crewmember

(2) DEFINITIONS.—In this subsection:

(A) AIR CARRIER.—The term "air carrier" has the meaning given such term in section 40102 of title 49, United States Code.

(B) CREWMEMBER.—The term "crewmember" has the meaning given such term in section 1.1 of title 14, Code of Federal Regulations (or successor regulations).

(e) APPLICABILITY TO RAIL CARRIERS.—

(1) IN GENERAL.—Except as provided in paragraph (2), an employer that is a rail carrier shall be subject to the requirements of this section.

(2) CERTAIN EMPLOYEES.—An employer that is a rail carrier shall be subject to the requirements of this section with respect to an employee of such rail carrier who is a member of a train crew involved in the movement of a locomotive or rolling stock or who is an employee who maintains the right of way, provided that compliance with the requirements of this section does not—

(A) require the employer to incur significant expense, such as through the addition of such a member of a train crew in response to providing a break described in subsection (a)(1) to another such member of a train crew, removal or retrofitting of seats, or the modification or retrofitting of a locomotive or rolling stock; or

(B) result in unsafe conditions for an individual who is an employee who maintains the right of way.

(3) SIGNIFICANT EXPENSE.—For purposes of paragraph (2)(A), it shall not be considered a significant expense to modify or retrofit a locomotive or rolling stock by installing a curtain or other screening protection.

(4) DEFINITIONS.—In this subsection:

(A) EMPLOYEE WHO MAINTAINS THE RIGHT OF WAY.—The term "employee who maintains the right of way" means an employee who is a safety-related railroad employee described in section 20102(4)(C) of title 49, United States Code.

(B) RAIL CARRIER.—The term "rail carrier" means an employer described in section 13(b)(2).

(C) TRAIN CREW.—The term "train crew" has the meaning given such term as used in chapter II of subtitle B of title 49, Code of Federal Regulations (or successor regulations).

(f) APPLICABILITY TO MOTORCOACH SERVICES OPERATORS.—

(1) IN GENERAL.—Except as provided in paragraph (2), an employer that is a motorcoach services operator shall be subject to the requirements of this section.

(2) EMPLOYEES WHO ARE INVOLVED IN THE MOVEMENT OF A MOTORCOACH.—An employer that is a motorcoach services operator shall be subject to the requirements of this section with respect to an employee of such motorcoach services operator who is involved in the movement of a motorcoach provided

that compliance with the requirements of this section does not—

(A) require the employer to incur significant expense, such as through the removal or retrofitting of seats, the modification or retrofitting of a motorcoach, or unscheduled stops; or

(B) result in unsafe conditions for an employee of a motorcoach services operator or a passenger of a motorcoach.

(3) SIGNIFICANT EXPENSE.—For purposes of paragraph (2)(A), it shall not be considered a significant expense—

(A) to modify or retrofit a motorcoach by installing a curtain or other screening protection if an employee requests such a curtain or other screening protection; or

(B) for an employee to use scheduled stop time to express breast milk.

(4) DEFINITIONS.—In this subsection:

(A) MOTORCOACH; MOTORCOACH SERVICES.—The terms "motorcoach" and "motorcoach services" have the meanings given the terms in section 32702 of the Motorcoach Enhanced Safety Act of 2012 (49 U.S.C. 31136 note).

(B) MOTORCOACH SERVICES OPERATOR.—The term "motorcoach services operator" means an entity that offers motorcoach services.

(g) NOTIFICATION PRIOR TO COMMENCEMENT OF ACTION.—

(1) IN GENERAL.—Except as provided in paragraph (2), before commencing an action under section 16(b) for a violation of subsection (a)(2), an employee shall—

(A) notify the employer of such employee of the failure to provide the place described in such subsection; and

(B) provide the employer with 10 days after such notification to come into compliance with such subsection with respect to the employee.

(2) EXCEPTIONS.—Paragraph (1) shall not apply in a case in which—

(A) the employee has been discharged because the employee—

(i) has made a request for the break time or place described in subsection (a); or

(ii) has opposed any employer conduct related to this section; or

(B) the employer has indicated that the employer has no intention of providing the place described in subsection (a)(2).

(h) INTERACTION WITH STATE AND FEDERAL LAW.—

(1) LAWS PROVIDING GREATER PROTECTION.—Nothing in this section shall preempt a State law or municipal ordinance that provides greater protections to employees than the protections provided for under this section.

(2) NO EFFECT ON TITLE 49 PREEMPTION.—This section shall have no effect on the preemption of a State law or municipal ordinance that is preempted under subtitle IV, V, or VII of title 49, United States Code.

[29 U.S.C. 218d] Enacted December 29, 2022, division KK of P.L. 117-328, sec. 102(a)(2), 136 Stat. 6093.

SEPARABILITY OF PROVISIONS

SEC. 19. If any provision of this Act or the application of such provision to any person or circumstances is held invalid, the remainder of the Act, and the application of such provision to other persons or circumstances shall not be affected thereby.

[29 U.S.C. 219] Enacted June 25, 1938, ch. 676, sec. 19, 52 State. 1069.

ARTICLE 5. CLARIFICATION TO BIDDERS

1. Contractor shall use the Davis Bacon guidelines, as well as the establish form for payroll, HUD 4710 (09/2024), during execution of the work.

2. **SECTION B.4, ARTICLE 1 ON PAGE B.4 16 OF 64 IS HEREBY AMENDED TO READ AS FOLLOWS:**

III. Proposal Guarantee - Unless otherwise stated in the Bid Documents, proposals must be accompanied by a Proposal Guarantee in an amount equal to five (5%) percent of the proposal and complying with the requirements for bonds in Section IV and Section VII. If the proposal guarantee is a bid bond, an original and four (4) copies of the bid bond must be submitted, duly complete and signed, using the forms provided by PRASA in the Bid Documents. The bid bond shall remain effective for at least **ninety (90) days** after the bid opening date or for a longer period of time, if so, is specified in the Bid Documents.

If the Proposal Guarantee is a certified check, it will be retained to pay for any damage or loss to PRASA in case the successful Bidder neglects or refuses to enter into a contract in accordance with the proposal.

The bid bond must be accompanied by the
A. “Power of Attorney”,
B. Acknowledgement of Surety,
C. Copy of license issued by the Office of the Insurance Commissioner of Puerto Rico, and the bond shall be duly classified as in Section J.

3. **SECTION B.4, ARTICLE 2 ON PAGE B.4 52-53 OF 64 IS HEREBY AMENDED TO READ AS FOLLOWS:**

3. Proposal Guarantee - Unless otherwise stated in the Bid Documents, proposals must be accompanied by a Proposal Guarantee in an amount equal to five (5%) percent of the proposal and complying with the requirements for bonds in Section 4 and Section 7.

If the proposal guarantee is a bid bond, an original and four (4) copies of the bid bond must be submitted, duly completed, and signed, using the forms provided by PRASA in the Bid Documents. The bid bond shall remain effective for at least **ninety (90) days** after the bid opening date or for a longer period of time, if so, is specified in the Bid Documents.

If the Proposal Guarantee is a certified check, it will be retained to pay for any damage or loss to PRASA in case the successful Bidder neglects or refuses to enter into a contract in accordance with the proposal.

The bid bond must be accompanied by the
a) “Power of Attorney”,
b) Acknowledgement of Surety,

c) Copy of license issued by the Office of the Insurance Commissioner of Puerto Rico, and the bond shall be duly classified as in Section.

ARTICLE 6. – ADDITIONAL INFORMATION TO BIDDERS

1. The following forms or documents reflect Changes to the Standard Forms as presented in the Section B.1 Standard Instructions to Bidders, Art. 8 Standard Form in Volume B:

    a. Payment Bond

    b. Performance Bond

1. PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____as principal, _____ and _____ as sureties, are hereby held and firmly bound unto the Puerto Rico Aqueduct and Sewer Authority, San Juan, Puerto Rico, in the sum of _____ _____($_____) Dollars, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____day of _____, 20_____.

The condition of this obligation is such that:

Whereas, the said principal did on the _____day of _____, 20_____ enter into a contract with the Puerto Rico Aqueduct and Sewer Authority, San Juan, Puerto Rico for furnishing materials and performing labor required for the construction of:

Project: _____
(Project Description)

_____ _____ _____
(CIP NUMBER) (Federal Funding Agency: EPA, FEMA, RD, PWS or N/A) (Funding Agency Number)

located at _____

_____, _____, Puerto Rico,
(Ward) (City)

as stated in his PROPOSAL, which said contract is made a part of this, the bond, the same as though set forth herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal and all Subcontractors to whom any portion of the Work provided for in said contract is sublet, shall pay all lawful claims of Subcontractors and material men for labor performed and

materials furnished in the carrying forward, performing or completing of said contract, (we agreeing and assenting that this undertaking shall be for the benefit of any material man having a just claim, as well as for the obligee herein), and shall promptly make payment to all persons who perform labor or render services in the prosecution of the Work provided for in said contract then this obligation shall be void; otherwise to remain in full force and effect.

All persons who have performed labor or rendered services as foresaid shall have a direct right of action against the Principal and Surety, on this Bond, which right of action shall be asserted in proceedings instituted in Puerto Rico. Insofar as permitted by the laws of Puerto Rico, such right of action shall be asserted in a proceeding instituted in the name of the obligate to the use and benefit of the persons instituting such action and of all other persons having claims hereunder shall have the right to be made a party to such proceeding (but not later than twelve months after the complete performance of said Contract and final settlement thereof) and to have such claim adjudicated in such action and judgment rendered thereon.

Moreover, all controversies, claims, counter-claims, action for subrogation by the Surety, disputes and any other matter in question between PRASA and the Surety arising out of the Payment Bond or pursuant to the Commonwealth Statutory Law and/or related to the interpretation of the Contract Documents or its breach in case that the Contractor or Design-Builder Contractor failed to pay any subcontractor, supplier or labor and that is not resolved in a mediation proceeding per section(s) 16.3 of the General Conditions; and which have not been waived in accordance with it; then the Surety ***expressly agree*** to submit themselves to the courts of the Commonwealth of Puerto Rico, San Juan, Part. The obligation of the Surety to expressly submit to the Court of the Commonwealth is not subject to the expiration term of this bond. Furthermore, the Surety's obligation to expressly submit to the Court of the Commonwealth, as indicated hereto, will not lapse is the Surety brings any action against

PRASA after the term of this bond has ended. In the same fashion, the Surety hereby waive its right, if any, to file a lawsuit or claim against PRASA in the United State Federal Court System.

The Surety shall not be liable hereunder for any damages or compensation recoverable under any workmen's compensation or employer's liability statute.

In no event shall the Surety be liable for a greater sum than that specified in this bond, or subject to any suit, action or proceeding therein that is instituted later than twelve months after the complete performance of said Contract and final settlement thereof.

As used herein the term person refers to any person engaged in the prosecution of the Work provided for in said Contract or in any amendment or extension of or addition to said Contract, who is an agent, servant or employee of the Principal, or of any Subcontractor, or of any assignee of said Principal or of any subcontract or, and also anyone so engaged who performs the work of a laborer or of a mechanic regardless of any contractual relationship between the Principal, or any assignee of said Subcontractor, and such laborer or mechanic, but shall not include office employees not regularly stationed at the side of the Work.

This bond will remain in full force and effect for an additional year after the date of acceptance of the Work and liquidation of the contract.

SIGNED, SEALED AND DELIVERED This _____day of _____, _____.

PRINCIPAL:	SURETY:
Firm Name:_____	Firm Name:_____
By (Typed Name): _____	By (Typed Name): _____
Authorized Representative	Authorized Representative
Address:_____	Address: _____
_____	_____
Signature: _____	Signature: _____
Date: _____	Date: _____

Seal Seal

SURETY:
Firm Name:_____
By (Typed Name):_____
Title_____
Address: _____
_____
Signature: _____
Date: _____
Seal

Note: Date of BOND must not be prior to date of Contract. If Contractor is partnership, all partners should execute BOND.
IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current List (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

2. PERFORMANCE BOND

KNOW ALL MEN BYTHESE PRESENTS, that we, the undersigned _____ _____as principal, _____and _____sureties, are hereby held and firmly bound unto the Puerto Rico Aqueduct and Sewer Authority, San Juan, Puerto Rico, in the sum of _____ _____($ _____) Dollars, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____day of _____, _____.

The condition of this obligation is such that:

Whereas, the said principal did on the _____day of _____, _____ enter into a contract with the Puerto Rico Aqueduct and Sewer Authority, San Juan, Puerto Rico for furnishing materials, equipment and performing labor required for the Construction of:

Project: _____
(Project Description)

_____ _____ _____
(CIP NUMBER) (Federal Funding Agency: EPA, FEMA, RD, PWS or N/A) (Funding Agency Number)

located at _____

_____, _____, Puerto Rico,
(Ward) (City)

as stated in his PROPOSAL, which said contract is made a part of this, the bond, the same as though set forth herein.

Now, if the said principal shall well and faithfully do and perform said contract, then this obligation shall be void; otherwise the same shall remain in full force and effect it being expressly understood and agreed

that the liability of surety for any and all claims hereunder shall in no event exceed the amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modification, omissions or addition in or to the terms of the said contract or in or to the Construction Drawings or specifications therefore shall in anywise affect the obligation of said surety on its bond.

In addition, the surety hereby stipulates that all controversies, claims, counter-claims, disputes and any other matter in question between PRASA and the Surety arising out of the Performance Bond and related to the interpretation of the Contract Documents or its breach in case that the Contractor or Design-Builder Contractor is declared in Default and not resolved in either a mediation proceeding per section(s) 16.3 of the General Conditions; and which have not been waived in accordance with it; then the surety expressly agree to submit themselves to the courts of the Commonwealth of Puerto Rico, San Juan, Part. The obligation of the surety to expressly submit to the Court of the Commonwealth is not subject to the expiration term of this bond. Furthermore, the surety's obligation to expressly submit to the Court of the Commonwealth, as indicated hereto, will not lapse is the Surety brings any action against PRASA after the term of this bond has ended. In same fashion, the Surety hereby waive if rights, if any, to file a claim or lawsuit in the United State Federal Court System.

This bond will remain in full force and effect for an additional year after the date of acceptance of the Work and liquidation of the contract.

SIGNED, SEALED AND DELIVERED This _____ day of _____, _____.

PRINCIPAL:	SURETY:
Firm Name: _____	Firm Name: _____
By (Typed Name): _____	By (Typed Name): _____
Authorized Representative	Authorized Representative
Address: _____	Address: _____
_____	_____

Signature: _____ Signature: _____
Date: _____ Date: _____
Seal Seal

SURETY:
Firm Name:_____
By (Typed Name):_____
Title_____
Address: _____
_____
Signature: _____
Date: _____
Seal

Note: Date of BOND must not be prior to date of Contract. If Contractor is partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current List (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

2. Project sign must follow the following project sign template and COR3 Memo entitled “Rótulos En Proyectos De Construcción” of October 21, 2025. Please refer to the following copies of both the Template and the Memo.

A. <u>Template</u>



B. COR3 Memo

OFICINA CENTRAL DE RECUPERACIÓN, RECONSTRUCCIÓN Y RESILIENCIA
COR3
GOBIERNO DE PUERTO RICO

21 de octubre de 2025

A: Todos los Subrecipientes

RE: Rótulos en Proyectos de Construcción

La Oficina Central para la Recuperación, Reconstrucción y Resiliencia de Puerto Rico (COR3) emite la presente notificación a todos los Subrecipientes:

De conformidad con lo establecido en las Órdenes Ejecutivas OE-2017-065, OE-2017-069, OE-2018-011 y OE-2020-014, el Gobierno de Puerto Rico ha delegado en COR3 la responsabilidad de identificar, procurar, administrar y canalizar todos los recursos estatales, federales y/o privados disponibles para la recuperación y reconstrucción de Puerto Rico. Asimismo, se ha designado al Director Ejecutivo de COR3 como el Representante Autorizado del Gobernador ante la Agencia Federal para el Manejo de Emergencias (FEMA), con la responsabilidad de administrar los programas federales de asistencia por desastres y garantizar el cumplimiento de los acuerdos establecidos con dicha agencia, conforme a lo dispuesto en el 44 C.F.R. § 206.44.

En el ejercicio de dichas funciones, COR3 no solo administra fondos, sino que también actúa como entidad intermediaria (*pass-through entity*) responsable de asegurar el cumplimiento de las condiciones que rigen el uso de los fondos federales. Conforme a lo dispuesto en los 2 C.F.R. §§ 200.208 y 200.332, COR3 está facultado para establecer condiciones específicas o adicionales cuando estas sean necesarias para promover la transparencia, fortalecer los mecanismos de supervisión y garantizar el uso adecuado de los recursos públicos asignados bajo subvención federal.

En virtud de lo anterior, y como medida dirigida a promover la visibilidad y el reconocimiento del esfuerzo conjunto entre el Gobierno de Puerto Rico y el Gobierno de los Estados Unidos, se instruye a todos los subrecipientes a instalar y mantener un rótulo informativo en cada proyecto de construcción que esté siendo financiado, en todo o en parte, con fondos de los Programas de Asistencia Pública o de Subvención para la Mitigación de Riesgos de FEMA canalizados a través de COR3. Dicho rótulo deberá incluir el logo oficial de COR3, junto con el texto que identifique claramente que el proyecto es financiado con fondos federales de los Programas de Asistencia Pública o de Subvención para la Mitigación de Riesgos de FEMA administrados por COR3.

Esta acción se fundamenta en los principios de transparencia, divulgación y rendición de cuentas establecidos en el 2 C.F.R. § 200.113, y refuerza el compromiso del Gobierno de Puerto Rico con la administración responsable de los fondos destinados a la recuperación y reconstrucción. Su cumplimiento contribuye a fortalecer la confianza pública en los procesos de recuperación y a visibilizar el impacto positivo de los esfuerzos conjuntos entre los gobiernos estatal y federal.

50 PR-165 SECTOR BUCHANAN PARQUE INDUSTRIAL GFR MEDIA, SUITE 2, GUAYNABO, P.R. 00968
PO BOX 42001 SAN JUAN, PR. 00940-2001 • 787-474-7050 • INFO@COR3.PR.GOV

A.7 SUPPLEMENTARY TECHNICAL SPECIFICATIONS

GUILARTE WATER TREATMENT PLANT REHABILITATION (FAASt)
ADJUNTAS, PUERTO RICO
CIP NUMBER: 4-01-6012

SUPPLEMENTARY TECHNICAL SPECIFICATIONS INDEX

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081110	DOOR HARDWARE	10
083050	ACCESS HATCHES AND ACCESSORIES	3
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088200	ALUMINUM WALKWAYS AND STAIRS	3
112140	VERTICAL TURBINE PUMPS	7
112150	PUMP CONTROLS	6
112190	MIXERS	6
112195	MANUFATURED WATER TREATMENT EQUIPMENT	6
112200	TUBE SETTLERS	4
112210	FILTERS	5
112250	CURTAIN BAFFLES	5
113240	WATER LEVEL TRANSDUCERS	4
113250	MAGNETIC FLOW METER	4
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113300	WATER TREATMENT CHEMICALS	2
113500	SHOWER EYEWASH STATION	2
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SECTION 010100
SUMMARY OF THE WORK

PART ONE - GENERAL

1.01 DESCRIPTION

A. The Work included under this contract consists of the construction of the improvements to the Gularte Water Treatment Plant. The plant consists of a 0.25 MGD water treatment module which in operation will be synchronized with an existing 0.135 MGD treatment module. The contractor shall complete all site work and structural, civil, architectural, mechanical and electrical components as described herein and shown on the Drawings. The work consists of but is not limited to the construction and installation of:

1. One (1) flash mix unit rated at 0.5 MGD, and One (1) flow splitter unit designed to divide the flow into modules.
2. One (1) 0.25 MGD compact water treatment plant module consisting of a 2-stage flocculator, and a sedimentation basin provided with tube settlers.
3. Two (2) new filters provided with piping, valving, controls and instrumentation for automatic operation.
4. Improvements to the existing Clearwell including a new chlorine diffuser and baffle curtains.
5. A new elevated concrete wash water storage tank
6. A new 140 GPM wash water pump station installed above the existing clear well
7. A new 347 GPM distribution pump station installed above the existing clear well
8. Modifications to the existing operation building,
9. A continuous Monitoring System
10. A new chemical handling and feed system,
11. Site, parking space, electrical and control improvements.
12. Miscellaneous piping, valving, site work, fencing, paving, landscaping, erosion control, and final site restoration

B. The Contractor shall furnish all tools, labor, equipment, supplies, material and transportation as necessary to complete all Work described herein and shown on the Drawings.

C. Unless otherwise provided by the Owner, the Contractor shall furnish the services of a properly licensed professional land surveyor to provide stake out and as-built surveying for the Work.

D. Unless otherwise provided by the Owner, the Contractor shall furnish the services of a properly licensed professional geotechnical engineer to provide construction quality assurance, inspection, and testing services as required by the Drawings and these Specifications.

E. Work included:

1. All site grading, excavation, trenching, backfilling and compaction for underground electrical, piping, and foundations.
2. Seeding, mulching and landscaping of all disturbed areas.
3. Completing all necessary connections for dry and wet utilities.
4. Supplying, constructing and installing all electrical, piping, structures, equipment, accessories, and appurtenances to provide an operational water supply and treatment, filter backwash reclaim, and pumping system.

F. The Contractor shall abide by all General and Supplemental Conditions as contained in the Contract Documents.

1.02 RELATED WORK TO BE COMPLETED BY OTHERS

A. Supervisory Control and Data Acquisition (SCADA) System: The new facilities described herein must be integrated with the existing SCADA system owned and operated by the Puerto Rico Aqueduct and Sewer Authority (PRASA) in order to coordinate the various components and function as a part of the overall PRASA's waterworks. The Contractor shall install all conduits and wiring to the locations of SCADA System panels shown on the Drawings. The SCADA System panels shall be provided by others, including termination of the wires within those panels. The Contractor shall coordinate as necessary with the provided of the SCADA System panels throughout construction and commissioning.

B. Site Infrastructure: The site shall be prepared as shown on the separate civil site plan produced by the Engineer. and approved by PRASA, including incoming and outgoing wet utilities. The Contractor shall coordinate with the site contractor as necessary throughout construction.

C. Site Primary Power: The Contractor shall coordinate as necessary with the local electrical power utility to provide primary power service to the Plant Site.

PART TWO - PRODUCTS

2.01 GENERAL

A. All equipment, materials, mixes, and fabrications shall conform with all requirements of these Specifications and PRASA Design Standards. In case of a conflict, the more stringent standard shall apply. If a conflict in named manufacturers occurs, the requirements of PRASA Design Standards shall apply.

PART THREE - EXECUTION

3.01 OWNER

A. The OWNER shall be defined as the developer of the property upon which the waterworks system is located, and the construction is completed, until the work is accepted by the PRASA.

3.02 Puerto Rico Aqueduct and Sewer Authority (PRASA)

A. The Puerto Rico Aqueduct and Sewer Authority (PRASA) is the OWNER of the Work upon completion of construction and final acceptance.

B. The CONTRACTOR shall coordinate with PRASA as necessary and required throughout the duration of the Work.

C. All equipment and materials submittals and test results shall be sent to PRASA for their review and approval.

3.03 GENERAL

A. CONTRACTOR shall execute all construction work stated in these Specifications and in the manner specified or illustrated in the Contract Documents and Drawings. Any omission in these Specifications does not release the CONTRACTOR from the responsibility to complete the Work or any part of the Work to the satisfaction of the OWNER or his representative and provide an operable facility.

3.04 CONSTRUCTION SCHEDULE

A. The CONTRACTOR shall submit a Construction Schedule for review and approval by the ENGINEER and OWNER prior to starting the Work. CONTRACTOR shall update the Construction Schedule at least once per month during the construction period and submit the updated schedule to the ENGINEER and OWNER for approval. CONTRACTOR shall complete the Work in accordance with the updated, approved Construction Schedule.

3.05 HOURS OF WORK

A. The time stated in the Contract Documents is sufficient to satisfactorily complete the Contract Work without incurring overtime. Nevertheless, if the CONTRACTOR for valid reasons wishes to work more than 10 hours per day, he shall notify the OWNER not less than 14 days before such overtime is to take place, in order to allow the OWNER sufficient time in which to provide the required inspecting and supervisory personnel for overtime work. All work requiring the OWNER's inspection shall be done during the OWNER's normal working hours unless overtime inspection has been scheduled in advance.

B. The CONTRACTOR shall comply with all applicable local, state, and/or Federal Health and Safety and Labor Compensation Laws.

END OF SECTION

SECTION 010850
APPLICABLE STANDARDS

PART ONE - GENERAL

1.01 DESCRIPTION

Work included: Throughout these Specifications, reference is made to codes and standards which establish qualities and types of workmanship and materials for construction. These references shall establish methods for testing and reporting on the construction. The CONTRACTOR shall be responsible for meeting these codes and standards.

1.02 QUALITY ASSURANCE

A. Familiarity with pertinent codes and standards: In procuring all items used in this Work, it is the CONTRACTOR's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for use in this Work meet or exceed the specified requirements.

B. Rejection of non-complying items: The ENGINEER reserves the right to reject items incorporated into the Work which fail to meet the specified minimum requirements. The ENGINEER further reserves the right, and without prejudice to other recourse the ENGINEER may take, to accept non-complying items subject to an adjustment in the Contract Amount as approved by the ENGINEER and the OWNER.

C. Applicable standards listed in these Specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

1. AAMA = Architectural Aluminum Manufacturers Association, 1900 E Golf Rd Suite 1250, Schaumburg, IL 60173, https://aamanet.org.

2. AASHTO = American Association of State Highway and Transportation Officials, 444 N Capitol St. NW, Suite 249, Washington, DC 20001, https://www.transportation.org.

3. ACI = American Concrete Institute, 38800 Country Club Dr. Farmington Hills, MI 48331-3439 USA, https://www.concrete.org.

4. AGMA = American Gear Manufacturers Association, 1001 N. Fairfax Street, Suite 500 Alexandria, VA 22314-1587, https://www.agma.org.

5. AHDGA = American Hot-Dip Galvanizers Association, 6881 S Holly Cir, Centennial, CO 80112, https://www.galvanizeit.org

6. AISC = American Institute of Steel Construction, Inc., One Prudential Plaza, 130 E Randolph St, Chicago, IL 60601.

7. AISI = American Iron and Steel Institute, 130 East Randolph, Suite 2000, Chicago, IL, 60601, https://www.aisc.org

8. ANSI = American National Standards Institute, 1899 L St NW, Washington, DC 20036, https://www.ansi.org

9. APA = American Plywood Association, 7011A S 19th St, Tacoma, WA 98466-5333, https://www.apawood.org

10. API = American Petroleum Institute, 1220 L St NW, Washington, DC 20005-4070, http://www.api.org

11. ASHRAE = American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc., 1791 Tullie Circle, N.E. Atlanta, GA 30329, https://www.ashrae.org

12. ASME = American Society of Mechanical Engineers, Two Park Avenue New York, NY 10016-5990, https://www.asme.org

13. ASTM = American Society for Testing and Materials, 100 Barr Harbor Drive P.O. Box C700 West Conshohocken, PA 19428-2959, https://www.astm.org

14. AWPA = American Wood Preservers Association, 100 Chase Park South, Suite 116 Birmingham, AL 35244-1851, http://www.awpa.com

15. AWS = American Welding Society Inc., 8669 NW 36 Street, # 130 Miami, Florida 33166-6672, https://www.aws.org

16. AWWA = American Water Works Association, 1300 I St NW #701w, Washington, DC 20005, https://www.awwa.org.

17. CLMI = Chain-Link Manufacturers Institute, 10015 Old Columbia Rd # B215, Columbia, MD 21046, https://chainlinkinfo.org

18. IPC = International Plumbing Code

19. COE = United States Army Corps of Engineers Specifications.

20. CRSI = Concrete Reinforcing Steel Institute, 933 N Plum Grove Rd, Schaumburg, IL 60173, http://www.crsi.org

21. Federal Specs and Federal Standards: Specification Sales (3FRPI), Bldg. 197, Washington Navy Yard, General Services Administration, Washington, DC 20407

22. FGMA = Flat Glass Marketing Association, 3310 Harrison, Topeka, KS 66611

23. GA = Gypsum Association, 6525 Belcrest Rd # 480, Hyattsville, MD 20782, https://www.gypsum.org

24. IEEE = Institute of Electrical and Electronic Engineers, 2001 L St NW #700, Washington, DC 20036, https://www.ieee.org

25. ISA = Instrument Society of America, 67 Alexander Drive, PO Box 12277, Research Triangle Park, NC 27709

26. Mixer Manufacturers Bureau of Associated General Contractors of America

27. MSS = Manufacturers Standardization Society of the Valve and Fittings Industry, 27 Park St. NE, Vienna, VA, 22180-4602, http://msshq.org

28. NAAMM = National Association of Architectural Metal Manufacturers, 800 Roosevelt Rd # C312, Glen Ellyn, IL 60137, https://www.naamm.org

29. NEC = National Electric Code (see NFPA).

30. NEMA = National Electrical Manufacturers Association, 1300 17th St N #900, Arlington, VA 22209, https://www.nema.org

31. NFPA = National Fire Protection Association, 1401 K St NW, Washington, DC 20005, http://www.nfpa.org

32. PCI = Prestressed Concrete Institute, 200 W Adams St # 2100, Chicago, IL 60606, https://www.pci.org

33. SAE = Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096, http://www.sae.org

34. SDI = Steel Deck Institute, P.O. Box 426 Glenshaw, PA 15116, http://www.sdi.org

35. SDI = Steel Door Institute, 30200 Detroit Road Westlake, Ohio 44145, https://www.steeldoor.org

36. SMACNA = Sheet Metal and Air Conditioning Contractors' National Association, Inc., 4201 Lafayette Center Drive, Chantilly, Virginia 20151-1219, https://www.smacna.org

37. SPA = Southern Pine Association

38. SSPC = Steel Structures Painting Council, 800 Trumbull Drive, Pittsburgh, PA 15205, http://www.sspc.org

39. TCA = Tile Council of America, Inc., 100 Clemson Research Blvd., Anderson, SC 29625, http://www.tcnatile.com

40. UL = Underwriter's Laboratories, Inc., 1850 M St NW #1000, Washington, DC 20036, https://www.ul.com.

PART TWO - PRODUCTS

2.01 GENERAL

A. It shall be the responsibility of the CONTRACTOR to obtain all copies of the Codes and Standards as required and as specified herein. The copies shall be obtained at no additional cost to the OWNER.

PART THREE - EXECUTION

3.01 GENERAL

It shall be the responsibility of the CONTRACTOR to see that measures to assure compliance with the specified Codes and/or Standards are instituted during the course of the Work. Note that if conflicts occur between applicable standards, the more stringent standard shall apply.

END OF SECTION

SECTION 017400
WARRANTIES AND BONDS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: All equipment and materials shall be guaranteed in accordance with these Specifications.

1.02 SUBMITTALS

A. General: Comply with the provisions and approved submittal schedule of Section 013340.

B. Equipment warranty: Submit two (2) copies of warranty and guarantee information for materials and equipment furnished, for the ENGINEER's approval. Major equipment items defined in Paragraph 2.02 shall have the warranty issued and signed by the manufacturer.

PART TWO - PRODUCTS

2.01 CONTRACTOR'S GUARANTEE

A. Except as provided in Paragraph 2.02, the CONTRACTOR shall provide a one (1) year written guarantee for all materials and workmanship after acceptance by the OWNER. All materials, equipment, and workmanship furnished under these Specifications shall be free from defects in material or workmanship. The CONTRACTOR shall repair or replace, at his own expense, any defective items during this specified period.

B. The CONTRACTOR shall be responsible for repair or replacement of any equipment which fails to meet the specified design requirements which are revealed during demonstration and acceptance testing. Repair or replacement of any such equipment shall be completed within 60 days, at no additional cost to the OWNER.

C. The CONTRACTOR shall prepare the completed facility including all mechanical equipment for acceptance by the OWNER and perform all equipment testing as specified in these Specifications.

2.02 MAJOR EQUIPMENT GUARANTEE

A. The following equipment shall be furnished with a five-year warranty, effective at the date of start-up, issued and signed by the equipment manufacturer:

1. Vertical Turbine Pumps
2. Standby Power Generator

B. Start up shall be defined as the point in time when the equipment is placed into permanent operation. Note individual items of equipment may be placed in service prior to start up of the overall facility. The start of the warranty period shall begin when the individual pieces of equipment are put into permanent service.

PART THREE - EXECUTION

3.01 GENERAL

Warranty information for all materials and equipment shall be submitted with the shop drawings.

END OF SECTION

SECTION 033000
HIGH STRENGTH CONCRETE

PART ONE - GENERAL

1.01 SECTION REQUIREMENTS

A. Submittals: Concrete mix designs and submittals required by ACI 301.
B. Ready-Mixed Concrete Producer Qualifications: ASTM C 94/C 94M.
C. Comply with ACI 301, “Specification for Structural Concrete”; ACI 117, "Specifications for Tolerances for Concrete Construction and Materials"; and CRSI's "Manual of Standard Practice.”

PART TWO - PRODUCTS

2.01 MATERIALS

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
B. Plain Steel Wire: ASTM A 82, as drawn.
C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, as drawn, flat sheet.
D. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
E. Portland Cement: ASTM C 150, Type I or II.
F. Fly Ash: ASTM C 618, Type C or F.
G. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
H. Silica Fume: ASTM C 1240, amorphous silica.
I. Aggregates: ASTM C 33, uniformly graded.
J. Synthetic Fiber: ASTM C 1116/C 1116M, Type III, polypropylene fibers, ½ inches long.
K. Air-Entraining Admixture: ASTM C 260.
L. Chemical Admixtures: ASTM C 494, water reducing and superplasticizers. Do not use calcium chloride or admixtures containing calcium chloride.

    1. Maximum Aggregate Size for Concrete in Insulating Concrete Forms: ¾ inch.

M. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures.
N. Vapor Retarder: Reinforced sheet, ASTM E 1745, Class A.
O. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.
P. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
Q. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
R. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
S. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

2.02 MIXERS

A. Comply with ACI 301 requirements for concrete mixtures.

B. Normal-Weight Concrete: Prepare design mixes, proportioned according to ACI 301, as follows:

1. Minimum Compressive Strength: 5000psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.4 for tank foundation, slabs and walls
3. Maximum Water-Cementitious Materials Ratio: 0.50 for all other structures
4. Slump Limit: 2 to 4 inches **before adding high-range water-reducing admixture or plasticizing admixture**, plus or minus 1 inch (6 inches after using superplasticizer.)
5. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of floor slabs to receive troweled finishes to exceed 3 percent.
6. Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.
7. For concrete exposed to deicing chemicals, limit use of fly ash to 25 percent replacement of portland cement by weight and granulated blast-furnace slag to 40 percent of portland cement by weight; silica fume to 10 percent of portland cement by weight.

C. Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116.

1. When air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
2. Concrete temperature must not exceed 90 deg F.

PART THREE - EXECUTION

3.01 CONCRETING

A. Construct formwork according to ACI 301 and maintain tolerances and surface irregularities within ACI 347R limits of Class A, 1/8 inch for concrete exposed to view and Class C, ½ inch for other concrete surfaces.
B. Place vapor retarder on prepared subgrade, with joints lapped 6 inches (150 mm) and sealed.
C. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
D. Install construction, isolation, and contraction joints where indicated. Install full-depth joint-filler strips at isolation joints.
E. Place concrete in a continuous operation and consolidate using mechanical vibrating equipment.
F. Protect concrete from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing.
G. Formed Surface Finish: Smooth-formed finish for concrete exposed to view, coated, or covered by waterproofing or other direct-applied material; rough-formed finish elsewhere.
H. Slab Finishes: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:

1. Scratch finish for surfaces to receive mortar setting beds.
2. Float finish for interior steps and ramps and surfaces to receive waterproofing, roofing, or other direct-applied material.

3. Troweled finish for floor surfaces and floors to receive floor coverings, paint, or other thin film-finish coatings.
4. Trowel and fine-broom finish for surfaces to receive thin-set tile.
5. Nonslip-broom finish to exterior concrete platforms, steps, and ramps.

I. Cure formed surfaces by moist curing for at least seven days
J. Begin curing concrete slabs after finishing. Keep concrete continuously moist for at least seven days if not possible apply membrane curing compound to concrete.
K. Owner will engage a testing agency to perform field tests and to submit test reports.
L. Protect concrete from damage. Repair surface defects in formed concrete and slabs.

END OF SECTION

SECTION 071100
MODIFIED BITUMEN SHEET ROOFING

PART ONE - GENERAL

1.01 SUMMARY

A. Modified Bitumen Sheet Roofing
B. Modified Bitumen Flashings
C. Roof Accessories
D. Walkways
E. Surfacing

1.02 REFERENCES

A. ASTM-American Society for Testing and Material
B. AWPB-American Wood Preservers' Bureau
C. ASTM D41-Asphalt Primer Used in Roofing
D. NRCA-National Roofing Contractors Association
E. ASTM D2178-Asphalt Glass Felt Used in Roofing
F. ASTM D312-Asphalt Used in Roofing
G. UL-Underwriters Laboratories, Fire Classification
H. SMACNA-Sheet Metal and Air Conditioning Contractors National Association
I. ASTM D1227-Asphalt Emulsion as a Roof Coating
J. ASTM D1863-Mineral Aggregate
K. ASTM D2824-Aluminum Pigmented Asphalt Roof Coating
L. EPA, EnergyStar Program

1.03 REGULATORY REQUIREMENTS

A. UL Classification: Class A
B. Factory Mutual (FM) System Classification: 1-705
C. Additional Test Agencies & Building Code Requirements: As applies

1.04 SUBMITTALS

A. Submit product data for: All components to be used, *i.e* : Primer, Membranes, Coatings, etc.
B. When materials are specified or a particular make or trade name is specified, it shall be indicative of a standard required. Bidder proposing substitutes shall submit the following:
    1. Written application with explanation of why it should be considered.
    2. Accredited testing laboratory certificate comparing substitute's physical/performance attributes to those specified.
    3. Smallest standard package of adhesive, coating, mastic, sealant, ply sheet, fastener(s) and flashing materials.
    4. Three job references available for inspection where substitutes were used under similar conditions.
C. Only substitutions equal or better approved in writing by Owner prior to scheduled installation will be considered.

1.05 QUALITY ASSURANCE

A. Manufacturer
   1. Shall provide local Technical Sales Representative to make start-up inspection and in-progress site inspections at regular intervals.
   2. Shall provide final inspection of completed roofing system and issuance of the warranty.

B. Contractor
   1. Roofing contractor shall be a registered applicator by the Manufacturer.
   2. Contractor shall retain a workmanship warranty for the specified system within the manufacturer's warranty.
   3. Strict adherence to the manufacturer's most current published specifications are to be followed. Deviations must be approved in writing by the architect and manufacturer prior to installation.

C. Designation of Responsible Personnel

D. Walkover Inspection
   1. Attendance: Representative of Owner/Architect, General Contractor, Roofing Contractor and Manufacturer's Technical Representative.

E. Final Inspection
   1. Will be scheduled by roofing contractor upon job completion.
   2. Attendance: Representative of Owner/Architect, General Contractor, Roofing Contractor and Membrane Manufacturer's Technical Representative.
   3. Minimum agenda:
      a. Walkover inspection
      b. Identification of problems which may impede issuance of warranty.
      c. Creation of punch list.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials.
   1. Deliver materials to job-site in new, dry, unopened and well marked containers showing product and manufacturer's name, production date and/or product code. All materials delivered shall be on pallets.
   2. Deliver materials in sufficient quantity to allow continuity of work.

B. Storage of Materials.
   1. Storage of plies to be protected from water or extreme humidity.
   2. Store all roll roof materials on end to prevent their becoming deformed/damaged. Discard rolls which have flattened, creased or otherwise damaged.
   3. Place materials on pallets which are at least four (4) inches above the ground. Do not stack pallets.
   4. Rooftop Storage: Disperse materials to avoid concentrated loading.
   5. Cover top and sides of all exterior stored materials with canvas tarpaulin (not polyethylene). Secure tarpaulin.

C. Material Handling.
   1. Handle plies to avoid bending, tearing or other damage during transportation and installation.
   2. Material handling equipment shall be selected and operated so as not to damage existing construction or applied roofing. Do not operate or situate material handling equipment in location(s) that will hinder smooth flow of vehicular or pedestrian traffic.

D. Safety Requirements.
   1. All application, material handling and associated equipment shall conform to and be in conformance with OSHA safety requirements.
   2. Comply with Federal, State, Local and Owner fire safety requirements.
   3. Maintain fire extinguishers within easy access whenever power tools, kettles or torches are being used.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Do not apply roofing membrane during inclement weather.
B. Do not apply roofing membrane to damp or frozen substrates.
C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during the same day.

1.08 WARRANTY

A. Manufacturer shall provide: Ten (10) years of Materials Only.
B. Certified Roofing Contractor shall provide: Ten (10) years of Workmanship Only

PART TWO – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Danosa Caribbean, Inc. Specification # 1-RC
B. Approved Substitutions

2.02 SHEET MATERIALS

A. Modified Bitumen Base Sheet:
   Modified Bitumen (SBS) base membrane with fiberglass mat reinforcement, protected with polyethylene film or silica sand. ASTM-D-6163-98 Type I Grade S.
B. Modified Bitumen Membrane:
   SBS Modified Bitumen top membrane with a fiberglass mat reinforcement, finished with ceramic granule as top protection surface area and burn-off film or silica sand on the other side. ASTM-D-6163-98 Type I Grade G.
C. Flashing Membrane:
   (SBS) Modified Bitumen flashing membrane with a fiberglass mat reinforcement, finished with aluminum clad top protection surface area and burn-off film on the other side. ASTM-D-6298-98

2.03 BITUMINOUS MATERIAL

A. Asphalt Primer: ASTM D41
B. Aluminum Coating: ASTM D2824

2.04 RELATED MATERIALS

A. Sealant: One part urethane.
B. Cants: Perlite, ASTM C728
C. Traffic Surfacing
D. Roof Penetrations protection

PART THREE – EXECUTION

3.01 EXAMINATION AND PROTECTION

A. Inspection
   1. Verify installation conditions as satisfactory to receive work.
   2. Do not install new roofing until all unsatisfactory conditions are corrected. Beginning work constitutes acceptance of conditions.
   3. Check projections, curbs and deck for inadequate anchorage, foreign material, moisture, or unevenness that would prevent quality of execution of the new roofing system.
B. General Workmanship
   1. Substrate: Free of foreign particles prior to laying roof membrane.
   2. Phased application: Not permitted, all plies shall be completed each day.
   3. Confine equipment, storage of materials, debris and the operations and movement of workers within the limits agreed upon for the project.
   4. Where wheeled or other traffic over partially completed roofing is unavoidable, provide adequate exterior protection to the roof.
   5. Wrapper and package materials: Not to be included in roof system.
   6. All metal and masonry shall be asphalt primed before fully adhering flashing sheets.
   7. Mechanical Fasteners: Seated firmly with fastener heads flush or below surface.
   8. Base flashing height is not less than eight (8) inches above finished surface.
C. Protection
   1. Contractor shall be responsible for protection of property during course of work. Lawn, shrubbery, paved areas and building shall be protected from damage at no extra cost.
   2. Roofing and flashing shall be installed and sealed in a watertight manner on same day of installation or upon the arrival of inclement weather.
   3. At the end of each work day, partial installation shall be sealed with water stops along edges to prevent water entry.
   4. At the start of each work day, drains within daily work area shall be plugged. Plugs are to be removed at end of each work day or before arrival of inclement weather.
   5. Preparation work shall be limited to those areas that can be covered with installed roofing material on same day or before arrival of inclement weather.
   6. Arrange work sequence to avoid use of newly constructed roofing for storage, walking surface and equipment movement. Move equipment and ground storage areas as work progresses.
D. Surface Preparation
   1. Remove all existing roof membrane, insulation and flashings down to the deck and curbs.
   2. Verify structural integrity of the deck. Notify the Architect of any deck or curb deficiency.

3.02 ROOF MEMBRANE APPLICATION

Substrate must be suitable to receive and hold roof system materials.

Prime all deck surfaces with asphaltic primer at 1 gallon per 100 to 200 square feet and allow to dry.

Starting at the low point, install modified bitumen membrane by:

A. Work Area Preparation:

1. Adequate ventilation is required; enough ventilation such that personnel exposures to hazardous concentration of airborne contaminants are maintained at or below the allowable levels specified by OSHA or NIOSH.
    a. Special care should be taken when torch welding is done in close or confined spaces due to possible concentration of contaminants and potential oxygen depletion. Appropriate precautions shall be observed. Use of mechanical ventilation to force air movement or use of approved respirators may be required.
2. All roof openings and edges should be protected or guarded in conformity with OSHA standards.
3. In awareness of other personnel in the torch welding area is mandatory, in tight quarters; only one (1) torch should be used.
4. The installer needs to have previously noted the locations of all pipes, curbs, or other roof top projections before working with torch welding.
5. Removal of combustible debris from the application area before the torch welding application begins is mandatory.
6. Appropriate precautions should be taken when torch welding in the proximity of gas pipe joints, HVAC coupling joints, or electrical service lines.
7. A base roofing ply shall cover all flammable materials (e.g. wood walls and wood fiber cant) before the torch welding application begins.
8. No torch welding shall be done unless the surrounding atmosphere is nonflammable and unless combustibles are moved away or properly protected from fire hazards.
9. Combustible materials which are present on a roof. Such as material wrappers, solvents, primers and roof cements shall be moved to a designated safe location.
10. Combustible materials which are present on a roof and are not movable shall be protected from fire hazards.
11. Combustible materials present on adjoining building surfaces (e.g. Shake shingles or wood siding) should be protected by covering with fire retardant blankets or a protective shield.
12. Sufficient fire extinguishing equipment shall be ready for use where torch welding roof work is being done. The fire extinguishing equipment should be portable fire extinguishers (Type ABC). In addition, buckets of sand and pails of water are advisable. Portable fire extinguishers shall be of the size and type required by local codes. A minimum of one 20 lbs. fire extinguisher per torch or torching machine should be on the roof at all times at the torching location. Special care shall be taken to check all fire extinguishers prior to and at the completion of the day's work to make sure they are full and operable.

B. Application:

1. Start at the low point of the roof and progress to the high point. The membrane shall be installed perpendicular to the slope of the roof except when the slope exceeds 3” per foot. At vertical surfaces, abutting the roof, the membrane shall extend to the cant and must be heat welded to the underlying membrane previously installed.
    a. On slopes of more than three inches per foot, the seams should run parallel to the slope of the roof.
2. All overlaps at the membrane seam shall be installed so as to have “up” slope laps over “down” slope laps.
3. Danosa membranes shall never be applied by any method except with a propane torch or electric heat welding devices designed for application modified bitumen.
    a. Flammable and solvent-based material (e.g. plastic cement) should not be exposed to flame.
    b. When re-roofing, wood and fiber cant strips are extremely flammable and should be removed or protected.
4. Membranes must not be applied during adverse weather or without precautionary measures in temperatures below 40° F.
5. The coiled membrane shall be unrolled approximately 15 feet, aligned, then the propane torch flame applied to the exposed outer surface of the coiled membrane until the bitumen reaches the proper application temperature, causing to develop a slight sheen. Care should be taken to avoid overheating which may result in damage to or improper adhesion of the membrane. The flame should be moved from side to side and up the lap edge while the membrane is slowly unrolled and adhered to the underlying surface. Subsequent shift of the roll shall be avoided after heating has begun. When complete, the remaining membrane shall be re-rolled and installed in the same manner. All end laps must be staggered so that no adjacent end laps coincide.
6. The end laps shall be lapped six inches (6”), and the side laps must be lapped four inches (4”) A bitumen bleed-out approximately ¼” to ½” must be obtained at all seam areas.
    a. To ensure the proper ½” flow of bitumen at the seam areas, a roller may be used. The man using roller should follow behind the torch man no more than 4 feet nor less than 3 feet to be sure that membrane will be in condition to produce proper bleed-out.
7. The seam can be rolled with a hand roller or troweled with heated trowel. When one end is complete, re-roll the opposite end not yet torched, and install in the same manner.
8. All end laps should be staggered a minimum of 15 feet.
9. All LP-Gas cylinders shall be secured in a cylinder storage area at the end of each work day.
10. All crews shall make a safety check of all equipment and LP-Gas cylinders prior to, and at the completion of the day’s work.
11. A fire watch shall be implemented on a daily basis after torch applications are completed. The job foreman or other designated personnel shall walk the area of application at the end of the day, checking for hot spots on the roof. A fire watch shall be conducted for a minimum of one hour after the last torch is shut off for the day.

C. Seaming:
   1. The bleed out of bitumen is troweled to insure a complete seal and watertight integrity.
   2. Proper troweling is achieved by using a heated trowel. The seam area and trowel should be heated simultaneously.
   3. Use heated trowel to achieve a smooth and watertight seam at all overlaps.

3.03 SURFACING COATING APPLICATION

A. Before proceeding with application, revise all overlaps and seams for proper seal and tightness. Clean surface of any foreign material or substance. Surface must be dry.
   1. Aluminum Roof Coating (asphalt base)
      a. Application may be brush, roller or airless spray
      b. Apply Richport Aluminum Roof Coating from ½ to 1 gallon per square

   Follow product's application instructions.

3.04 FLASHINGS

A. Modified Bitumen Flashings:
   1. Set perlite cant in elastomeric mastic or mechanically attach.
   2. Install new roofing two inches minimum beyond top edge of cant.
   3. Prime the wall surface with asphaltic primer.
   4. Adhere flashing membrane completely to roofing membrane. Lap sheeting ends six (6) inches. Ensure complete bond without wrinkles or voids.
   5. Membrane coverage - Sufficient so that after being installed, membrane will be eight (8) inches minimum up the parapet wall. It will extend at least six (6) inches beyond to edge of the cant onto the roof surface.
   6. See detail drawings for individual flashing requirements.

3.05 DAILY WATERSTOP TIE-IN

A. End of day
   1. Remove debris from top ply of felt along termination, width eighteen (18) inches.
   2. Adhere twelve (12) and eighteen (18) inch wide ply sheets from exposed deck to applied roofing with a continuous 1/16" inch thick application of water cut-off mastic. Extend eighteen (18) inch wide felt three (3) inches on both sides of the twelve (12) inch felt.

B. Beginning of next day's work

   1. Remove temporary connection by cutting felts evenly along edge of existing roof system.

3.06 FIELD QUALITY CONTROL

A. Repair of deficiencies
   1. Installations or details noted as deficient during Final Inspection must be repaired and corrected by applicator.

3.07 CLEANING

A. Immediately upon job completion, roof membrane and flashing surfaces shall be cleaned of debris.
B. Contractor shall be responsible for the cost of all clean-up procedures.

END OF SECTION

SECTION 081110
DOOR HARDWARE

PART ONE - GENERAL

1.01 SCOPE

A. CONTRACTOR shall provide all labor, materials, tools, equipment and incidentals as shown, specified and required to furnish and install door hardware. Furnish door hardware for all doors in compliance with these Specifications herein.

B. Extent of door hardware is specified. Door hardware is defined to include all items known commercially as door hardware, except special types of unique and non-matching hardware specified in the same Section as the door and door frame.

C. Types of products required include the following:

1. Mortise hinges.
2. Heavy-duty pivot hinges.
3. High-security mortise locksets.
4. High-security mortise latch sets.
5. Panic exit devices.
6. Heavy-duty, floor-mounted, concealed, door closers.
7. Overhead, surface-mounted, door closers.
8. Heavy-duty, concealed, adjustable, overhead holders and stops.
9. Extra heavy-duty, surface-mounted, overhead holders and stops.
10. Flush bolts and automatic flush bolts.
11. Coordinators.
12. Astragals.
13. Dust-proof strikes.
14. Door pulls, push plates and protection armor plate.
15. Stripping and seals.
16. Thresholds.
17. Silencers.
18. Floor-type stops with automatic hold-open operation.
19. Floor stops.
20. Wall stops.
21. Miscellaneous items and accessories for a complete installation functioning in compliance with the requirements of governing authorities having jurisdiction at the Site.

1.02 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American National Standards Institute (ANSI): A117.1, Buildings and Facilities-Providing Accessibility and Usability for Physically Handicapped People.
2. Builders Hardware Manufacturer's Association (BHMA):
    a. A156.1, Butts and Hinges.
    b. A156.2, Bored and Preassembled Locks and Latches.
    c. A156.3, Exit Devices.
    d. A156.4, Door Controls - Closers.

e. A156.13, Mortise Locks and Latches, Series 1000.

f. A156.16, Auxiliary Hardware.

g. A156.18, Materials and Finishes.

3. Door Hardware Institute (DHI): A115.1, Preparation of Mortise Locks in 1-3/8-Inch and 1-3/4-Inch Standard Steel Doors and Frames.

4. Underwriters Laboratories, Inc. (UL): Fire Protection Equipment List.

1.03 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:

a. Product Data: Manufacturer's literature for each item of finish hardware required herein, clearly marked.

b. Finish Hardware Schedule: Furnish complete and detailed schedule, show product items, numbers, and finishes for hardware for each separate opening.

c. Special Tools: Provide listing and description of usage.

2. Samples:

a. Furnish a sample if necessary.

B. Informational Submittals:

1. Operation and Maintenance Data as specified in Section 017800, Operation and Maintenance Data.

2. Manufacturer's Field Service Report.

3. Certification of Hardware Consultant.

4. Manufacturer's Certificate of Proper Installation, in accordance with Section 016400, Manufacturers' Services.

1.04 QUALITY ASSURANCE

A. Qualifications of Supplier: Recognized supplier of architectural finish hardware, with warehousing facilities, who has been furnishing hardware in vicinity of Project for not less than 5 years, and who is, or who employs, architectural hardware consultant.

B. Qualifications of Architectural Hardware Consultant (AHC): Certified by Door and Hardware Institute.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Before delivery, clearly identify and tag each item of hardware with respect to specified description and location of installation.

B. Provide secure storage for finish hardware until installation is made.

1.06 EXTRA MATERIALS

A. Special Tools: Two sets for installation and maintenance of hardware.

PART TWO – PRODUCTS

2.01 MATERIALS

A. Provide end products of one manufacturer for each product in order to achieve standardization for appearance, maintenance, and replacement.

B. Finishes: BHMA A156.18.

2.02 FASTENERS

A. Stainless steel.

2.03 BUTT HINGES

A. BHMA A156.1.

B. Quantity per Door Leaf (Minimum):

Door Height	Hinges
Up to 5'-0"	1 pair
5'-1" to 7'-7"	1-1/2 pair
7'-8" to 10'-0"	2 pairs
10'-1" to 12'-6"	2-1/2 pairs

C. Hinge Height (Minimum):

Door Width	Hinge Height
Up to 3'-0"	4-1/2”
3'-1" to 4'-0"	5”
Over 4'-0"	6”

D. Width: Minimum for clearance of trim and 180-degree swing.

E. Exterior Hinges: Nonremoveable pin.

F. Joint Tolerance: 0.012 inch maximum, gauged in CLOSED position.

G. Finish: chromium-plated brass or bronze No. 626. As indicated for each type.

H. Manufacturers:

a. Stanley

b. Mc-Kinney

c. Lawrence

d. BHMA

2.04 LOCKS AND LATCH SETS

A. Cylindrical or Bored Locks: BHMA A156.2, highest grade.

1. Trim: Wrought or cold-forged metal knobs and roses.
2. Core Cylinders: Interchangeable, removable; minimum of six pins.
3. Strikes: Lip dimensions to fit configuration of trim.
4. Bolt Throw: 3/4 inch minimum, on latchbolts for pair of doors.
5. Knob Backset: 3-3/4 inches.

6. Manufacturers and Products
    a. Sargent; AC.
    b. Schlage; Plymouth.
    c. Best; 4C Washington.

B. Mortise Locks: BHMA A156.13, Series 1000, Grade 1 and DHI A115.1.
    1. Materials: Brass or stainless steel.
    2. Trim: Wrought or forged lever handles and roses.
    3. Core Cylinders: Interchangeable, removable; minimum of six pins.
    4. Bolt Throw: 5/8 inch minimum.
    5. Lever Backset: 2-3/4 inches.
    6. Manufacturers and Products:
        a. Sargent; LNH.
        b. Schlage; 03.
        c. Best

C. Tactile Warning: Knurl knob backs and lever handles for touch identification; ANSI A117.1, Section 4.29.3.

D. Finish:
    1. Satin chromium-plated No. 626.
    2. Coat knobs and levers with Teflon.

E. [A: Locks and Latches: Match existing in manufacturer, design, finish, and keying. No substitutions allowed.]

F. Manufacturers:
    a. Best
    b. Sargent
    c. Schlage
    d. BHMA

G. Keying:
    1. Lock Cylinders: Operate by master key system that allows for future expansion.
    2. Keylocks: As indicated in Door and Hardware Schedule
    3. Keys: Two per lock; tag with schedule information.
    4. Master Keys: Four; send by registered mail to Owner.
    5. Key cabinet and casework locks into building system.

2.05 CONSTRUCTION KEY SYSTEM

A. Removable construction core system for locks.

B. See Article Manufacturer’s Services under Part 3, Execution.

2.06 CONSTRUCTION KEY SYSTEM

A. Assemble permanent cylinders with construction inserts and ship with all lock sets.

B. Change Keys: Pack in separately identified envelopes and ship.

C. Construction Keys: Pack in cartons marked “packing list” and ship.

D. Construction Insert Extractor Keys, Master Keys, and Grand Master Keys: Ship by registered mail to Owner.

E. On completion of job, deliver construction keys to Owner.

2.07 EXIT DEVICES

A. BHMA A156.3.

B. Furnish fire exit devices at fire-rated doors.

C. Removable Mullion: By exit device manufacturer.

D. Trim:

1. Knobs: Sargent PRK; Von Duprin K.

2. Levers: Sargent LNH; Von Duprin 03.

E. Finish:

1. Exit Device: Satin chromium-plated No. 626.

2. Removable Mullion: [A: Wrought steel or aluminum with prime coat, 980.] [B: Extruded aluminum, 980A or 5654.]

NTS: Type X1, X3, and X6 devices include knob/lever handle and keyed

F. Manufacturers:

1. Sargent

2. Von Durin

3. BHMA

2.08 CLOSERS

A. BHMA A156.4.

B. Size closers in accordance with manufacturer’s standards. Mount regular arm closers on pull side of doors. Mount parallel arm closers on push side of doors. On pair of doors provide closer on active leaf only, unless noted otherwise.

C. Finish: Satin chromium-plated No. 626. in color selected by Engineer from manufacturer’s standard color range].

D. Manufacturers:

a. LCN

b. Sargent

c. BHMA

2.09 PUSH-PULLS

A. Solid metal, not plated.

B. Finish: Satin chromium-plated No. 626,unless indicated otherwise.

C. Plates: Beveled four edges, square corners.

D. Pulls: Bolted through door.

E. Push Plates: Countersink pull-through bolts and cover with push plate.

F. Manufacturers:

1. BBW
2. Baldwin

2.10 STOPS AND HOLDERS

A. BHMA A156.16.

B. Machine Screws: In threaded anchors at concrete or masonry.

C. Self-Tapping Screws: At stud partitions, wood, or metal mountings.

D. Metal Risers: For mounting at carpet floors.

E. Finish: Satin chromium-plated No. 626.

F. Manufacturers for Each Leaf:

a. BBW or GJ
b. Baldwin
c. BHMA

2.11 BOLTS

A. BHMA A156.16.

B. Finish: Bright nickel No. 645.

C. Manufacturers:

a. Stanley
b. Lawrence
c. BHMA

2.12 KICKPLATES

A. Solid metal, not plated..

B. Width of door leaf less 1-1/2 inches at single leaf and less 1 inch at pairs.

C. Finish: Satin stainless steel No. 630.

D. Types and Manufacturers: Builders Brass Works, Baldwin, or Cipco as follows

1. K1 10 inches high by 0.05 inch thick.
2. K2 36 inches high by 0.05 inch thick.

2.13 THRESHOLDS

A. Thresholds: One-piece full width of opening; extend beyond jamb where indicated.

B. Provide with stainless steel machine screws in threaded expansion anchors at concrete.

C. Finish: [A: Mill finish] [B: Dark bronze anodized] aluminum, unless indicated otherwise.

D. Manufacturers:

a. Pemco

b. Reese

2.14 WEATHERSTRIP

A. Finish: [A: Clear] [B: Dark bronze] anodized aluminum, unless indicated otherwise.

B. Manufacturers:

a. Pemco

b. Reese

2.15 MISCELLANEOUS ITEMS

A. Provide as indicated in Door and Hardware Schedule:

M1	Nameplate Identifying Devices, in text noted in Door and Hardware Schedule		
M2	Nameplate and barrier-free pictorial symbol Identifying Devices, in text noted in Door and Hardware Schedule		
M3	Barrier-free pictorial symbol, 6 inch by 6 inch, Identifying Devices		
M4	Bypassing Door Hardware:		
		Lawrence	Stanley
	Set	EDF500 Series, with integral fascia	Series 1700, with integral fascia
	Brass pulls	405	303-STL3
M5	Pocket Door Hardware:		
		Lawrence	Stanley
	Set	PF619	Series 40-3940
	Brass pulls	411	100-B
M6	Bifold Door Hardware:		
		Lawrence	Stanley
	Set	ED600	Series 2700
	Brass pulls	Quality 813	4484
M7	Coordinator:		
		GJ	Ives
	Model	COR-65	469

2.16 SILENCERS

A. Ives, Glynn-Johnson.

B. At metal frame of each hinged door that does not have seals scheduled.

C. Three at single leaves and two at pairs.

D. 2.17 NAMEPLATES

A. Material: Plastic plate; 1/8 inch thick with beveled edges.

B. Types and Manufacturers: Builders Brass Works, Trimco, and as follows:

N1	2"-high black plate with 1"-high white Helvetica medium letters in text noted in Door and Hardware Schedule
N2	Same as N1 with addition of barrier-free pictorial symbol

2.18 TEMPLATES

A. Fabricate to template hardware applied to metal doors and frames.

B. Ensure that required templates are furnished to various manufacturers for fabrication purposes.

C. Templates: Make available not more than 10 days after receipt of approved Hardware Schedule.

2.19 EXIT AND FIRE DOORS

A. Exit Doors: Always openable from inside by simple turn of lever handle or push on panic bar without use of key or any special knowledge or effort, to include each leaf of door pairs.

B. Hardware for Fire Doors: Underwriters Laboratories Inc., Fire Protection Equipment List.

2.20 KEY CONTROL SYSTEM

A. System: Key Control Systems Co., Telkee, Inc., expandable system with 150 (E8351)-key capacity expandable to 425.

B. Cabinet:

1. Manufacturer’s standard surface mounted cabinet, single-door with continuous hinge, and pin tumbler lock, color as selected from standard colors to match Engineer’s color schedule. Use Telkee AWC 150-S.

2. Complete system with standard components such as envelopes, transient key tags, reserve key tags, receipts and holders, and card index.

PART THREE - EXECUTION

3.01 INSTALLATION

A. In accordance with manufacturer’s written instructions.

B. Make Work neat and secure, develop full strength of components, and provide proper function.

C. Prevent marring, scratching, or otherwise damaging adjacent finishes during hardware installation.

D. Latchbolts:

1. Install to engage in strikes automatically, whether activated by closers or manually.

2. In no case shall additional manual pressure be required to engage latchbolt in strike.

E. Stops and Holders: Set to allow doors to open as far as possible.

F. Wall Mounted Hardware: Install over solid structural backing or solid blocking in hollow walls.

G. Thresholds:

1. Cope ends neatly to profile of jamb.

2. Set in sealant and seal ends to jambs.

H. Key Control System Cabinet: Install where shown.

I. Hardware: Adjust for easy, noise-free operation.

J. Replace damaged hardware items.

3.02 MOUNTING DIMENSIONS

A. Standard Door Hardware Locations: As recommended and published by Door and Hardware Institute, except as noted or detailed otherwise.

B. Door Silencers: Install 3 inches from top and bottom of jamb and 1 inch above strike at single doors, and 3 inches from edges of doors in head for pairs of doors.

C. Nameplates: Attach to doors [A: or walls adjacent to doors] 5 feet 6 inches above floor using Phillips head screws.

3.03 MANUFACTURER'S SERVICES

A. Deliver permanent lock cores to Site.

B. Remove temporary construction cores and insert permanent cores.

C. Inspect each lock set to ensure permanent cores are operating satisfactorily.

D. Deliver to Owner change and control keys for permanent system.

E. Return temporary construction cores to manufacturer.

F. Furnish manufacturer's representative for the following services at Site or classroom as designated by Owner, for minimum person-days listed below, travel time excluded:

1. One person-days for installation assistance, inspection, and Manufacturer's Certificate of Proper Installation.

2. One person-days for functional and performance testing.

3.04 PROTECTION

A. Cover and protect exposed surfaces of hardware during installation and until Substantial Completion.

B. Fit, dismantle, and reinstall finish hardware as required for finish painting work.

C. Protect and prevent staining of hardware during construction in accordance with manufacturer's recommendations.

D. Remove protective measures and permanent lock cylinders installed prior to final cleaning.

3.05 DOOR AND HARDWARE SCHEDULE

A. Door and Hardware Schedule on Drawings, is guide to functional requirements of each opening.

B. Provide finish hardware as scheduled. Sizes omitted shall be as recommended by manufacturer.

END OF SECTION

SECTION 083050
ACCESS HATCHES AND ACCESSORIES

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: Furnish all labor, materials, tools and equipment necessary to furnish and install all access hatches and accessories as shown on the Drawings, specified herein, or otherwise required.

B. Related work specified elsewhere:

1. Cast-In-Place Concrete – Section 033100
2. High Strength Concrete - 033000
3. Concrete Reinforcement – Section 032100

1.02 QUALITY ASSURANCE

A. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

B. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340.

B. Shop drawings: As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Complete materials list of all items proposed to be furnished and installed under this Section.
2. Complete shop drawings of all items to be fabricated.
3. Manufacturer's specifications and other product data required to demonstrate compliance with specified requirements.
4. Manufacturer's recommended methods of installation. The manufacturer's recommended methods of installation, when approved by the ENGINEER, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements

necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in materials and workmanship for a minimum of one (1) year following acceptance by the OWNER.

PART TWO - PRODUCTS

2.01 GENERAL

A. Design is based upon use of equipment furnished by the Halliday Company, and the terminology used may include reference to the specific performance or product of this manufacturer. Such reference shall be construed only as establishing the quality of materials, operation and workmanship to be used under this Section and shall not, in any way, be construed as limiting competition. Similar equipment as manufactured by the Bilco Company or other approved manufacturer would also be acceptable provided the CONTRACTOR coordinates and provides all required adjustments to arrangements, support, power and piping connections, etc.

B. All shapes shall be formed, rolled and formed, or cold-drawn with contours, with arises as true and sharp as can be produced in the thickness of metal required. All construction shall be welded, strong, rigid, neat in appearance and free from defects. Manufacturer shall drill, fit, and tap for all hardware as necessary.

2.02 ACCESS HATCHES

A. General: Access hatches shall be Halliday Company single leaf or double leaf as noted on the Drawings. Access hatches of watertight construction with an integral drain shall be used wherever hatches are exposed to the weather. Access hatches shall be constructed of aluminum with stainless steel hardware, except as specifically indicated herein. Access hatches shall be capable of withstanding a minimum loading of 300 pounds per square foot with a maximum deflection of 1/150th of the span.

B. All access hatches shall conform to the following specifications:

1. Door leaf shall be 3" aluminum diamond pattern plate.

2. Channel frame shall be 3" aluminum with an anchor flange around the perimeter.

3. Access shall be equipped with heavy stainless steel hinges, stainless steel pins, spring operators for easy operation, and an automatic hold-open arm with release handle. A slam lock with removable handle and a padlock bar shall be provided.

4. A 1 1/2" drainage coupling shall be included in the access hatch assembly.

5. Hardware shall be stainless steel.

6. Access hatches shall be factory mill finished with bituminous coating shop applied to exterior of frame.

7. Access hatches shall have built-in neoprene gasket to limit the transmission of

odors.

8. Access hatches shall be provided with protective grating panel with hinge and hold-open latch. Panel shall be of 6036-T6 aluminum I bar construction with safety orange powder coated finish and shall be capable of withstanding a loading of 300 pounds per square foot. Panel hardware shall be 316 stainless steel.

9. All hatches potentially subject to vehicular loading shall meet AASHTO H-20 loading criteria.

2.03 ACCESSORIES AND RELATED PRODUCTS

A. General: Unless otherwise noted, accessories and related products shall be manufactured by Halliday Company and shall meet the requirements of this Specification section.

B. Davit Mount Bases: Where shown on the Drawings, stainless steel floor mount bases as manufactured by Guardian Fall Protection shall be cast into the concrete at all hatches where access ladders are installed below.

PART THREE - EXECUTION

3.01 INSPECTION

Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

Access doors shall be installed as shown on the Drawings and in accordance with Section 15010 and manufacturer's recommendations.

3.03 HATCH DRAIN

Extend 1 1/2" PVC drain piping from the coupling provided on the access hatches to daylight or to the drains located inside the structures.

END OF SECTION

SECTION 088100
METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Standard hollow metal doors and frames.

B. Related Sections

1. Division 4 Section "Unit Masonry" for embedding anchors for hollow metal work into masonry construction.
2. Division 9 Sections Painting for field painting hollow metal doors and frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings.

B. Standard Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8.

C. Custom Hollow Metal Work: Hollow metal work fabricated according to ANSI/NAAMM-HMMA 861.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire-resistance rating, temperature-rise ratings, and finishes.

B. Shop Drawings: Include the following:

1. Elevations of each door design.
2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.

6. Details of anchorages, joints, field splices, and connections.

C. Samples for Verification:

1. For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches.
2. For the following items, prepared on Samples about 12 by 12 inches to demonstrate compliance with requirements for quality of materials and construction:

a. Doors: Show vertical-edge, top, and bottom construction; core construction; and hinge and other applied hardware reinforcement. Include separate section showing glazing if applicable.
b. Frames: Show profile, corner joint, floor and wall anchors, and silencers. Include separate section showing fixed hollow metal panels and glazing if applicable.

D. Other Action Submittals:

1. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.

E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of hollow metal door and frame assembly.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal work from single source from single manufacturer.

B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252.
1. Temperature-Rise Limit: At vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to finish of factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch-high wood blocking. Do not store in a manner that traps excess humidity.

1. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.8 COORDINATION

A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Amweld Building Products, LLC.
2. Benchmark; a division of Therma-Tru Corporation.
3. Ceco Door Products; an Assa Abloy Group company.
4. Curries Company; an Assa Abloy Group company.
5. Deansteel Manufacturing Company, Inc.
6. Firedoor Corporation.
7. Fleming Door Products Ltd.; an Assa Abloy Group company.
8. Habersham Metal Products Company.
9. Karpen Steel Custom Doors & Frames.
10. Kewanee Corporation (The).
11. Mesker Door Inc.
12. Pioneer Industries, Inc.
13. Security Metal Products Corp.
14. Steelcraft; an Ingersoll-Rand company.
15. Windsor Republic Doors.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.

D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

F. Powder-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow metal frames of type indicated.

G. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.

H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6- to 12-lb/cu. ft. density; with maximum flame-spread and smoke-development indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

I. Glazing: Comply with requirements in Division 8 Section "Glazing."

J. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.3 STANDARD HOLLOW METAL DOORS

A. General: Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8.

1. Design: Flush panel.
2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel- stiffener core.

a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
b. Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal-resistance value (R-value) of not less than 4.0 deg F x h x sq. ft./Btu when tested according to ASTM C 1363.

1) Locations: Exterior doors.

3. Vertical Edges for Single-Acting Doors: Manufacturer's standard.

a. Beveled Edge: 1/8 inch in 2 inches.

4. Vertical Edges for Double-Acting Doors: Round vertical edges with 2-1/8-inch radius.
5. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- thick, end closures or channels of same material as face sheets.
6. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."

B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Level 3 and Physical Performance Level A (Extra Heavy Duty), Model 1 (Full Flush).

a. Width: 1-3/4 inches.

C. Interior Doors: Face sheets fabricated from cold-rolled steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Level 1 and Physical Performance Level C (Standard Duty), Model 1 (Full Flush).

a. Width: 1-3/4 inches.

D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

E. Fabricate concealed stiffeners and hardware reinforcement from either cold- or hot-rolled steel sheet.

2.4 STANDARD HOLLOW METAL FRAMES

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.

B. Exterior Frames: Fabricated from metallic-coated steel sheet.

1. Fabricate frames with mitered or coped corners.
2. Fabricate frames as full profile welded unless otherwise indicated.
3. Frames for Level 3 Steel Doors: 0.053-inch- thick steel sheet.

C. Interior Frames: Fabricated from cold-rolled steel sheet.

1. Fabricate frames with mitered or coped corners.
2. Fabricate frames as full profile welded unless otherwise indicated.

3. Frames for Level 1 Steel Doors: 0.042-inch- thick steel sheet.

D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.

2.5 CUSTOM HOLLOW METAL DOORS

A. General: Provide doors not less than 1-3/4 inches thick, of seamless hollow construction unless otherwise indicated. Construct doors with smooth surfaces without visible joints or seams on exposed faces. Comply with ANSI/NAAMM-HMMA 861.

B. Exterior Door Face Sheets: Fabricated from metallic-coated steel sheet, minimum 0.053 inch thick.

C. Interior Door Face Sheets: Fabricated from cold-rolled steel sheet, minimum 0.042 inch thick.

D. Core Construction: Provide thermal-resistance-rated cores for exterior doors.

1. Steel-Stiffened Core: 0.026-inch- thick, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart, spot welded to face sheets a maximum of 5 inches o.c. Spaces filled between stiffeners with glass- or mineral-fiber insulation.

    a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
    b. Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal-resistance value (R-value) of not less than 4.0 deg F x h x sq. ft./Btu when tested according to ASTM C 1363.

E. Vertical Edges for Single-Acting Doors: Beveled 1/8 inch in 2 inches.

F. Top and Bottom Channels: Closed with continuous channels, minimum 0.053 inch thick, of same material as face sheets and spot welded to both face sheets.

G. Hardware Reinforcement: Fabricate according to ANSI/NAAMM-HMMA 861 with reinforcing plates from same material as door face sheets.

2.6 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
2. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

B. Floor Anchors: Formed from same material as frames, not less than 0.042 inch thick, and as follows:

1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at finish floor surface.

2.7 ACCESSORIES

A. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

2.8 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117 ANSI/NAAMM-HMMA 861.

C. Hollow Metal Doors:

1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.

D. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
5. Jamb Anchors: Provide number and spacing of anchors as follows:

    a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

        1) Two anchors per jamb up to 60 inches high.
        2) Three anchors per jamb from 60 to 90 inches high.

3) Four anchors per jamb from 90 to 120 inches high.
4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.

6. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers as follows. Keep holes clear during construction.

   a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
   b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

E. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.

F. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 8 Section "Door Hardware."

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8 ANSI/NAAMM-HMMA 861.
2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 16 Sections.

2.9 STEEL FINISHES

A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive nontemplated, mortised, and surface- mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.

1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

    a. At fire-protection-rated openings, install frames according to NFPA 80.
    b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    c. Install frames with removable glazing stops located on secure side of opening.
    d. Install door silencers in frames before grouting.

e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
f. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
g. Field apply bituminous coating to backs of frames that are filled with grout containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.

a. Floor anchors may be set with powder-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
5. Concrete Walls: Solidly fill space between frames and concrete with grout. Take precautions, including bracing frames, to ensure that frames are not deformed or damaged by grout forces.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:

a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:

a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION

SECTION 088200
ALUMINUM WALKWAYS AND STAIRS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work Included: Provide all labor, materials, tools, equipment and incidentals as shown, specified and required to furnish and install aluminum walkways and stairs to the treatment modules.

B. Related Work Specified Elsewhere:

1. Mixers – Section 112190
2. Manufactured Water Treatment Equipment – Section 112195
3. Vertical Turbine Pumps – Section 112140
4. Filters – Section 112210
5. Process Piping – Section150600
6. Process Valving – Section 150900

1.02 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. OSHA 29 CFR 1910,
2. ANSI/NAAMM MBG 531,
3. ANSI/NAAMM MBG 533,
4. AWS D1.2 Aluminum Welding Code..

1.03 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:
    a. Product data. load calculations, and manufacturer certifications.
    b. Manufacturer's literature for each item clearly marked.
    c. Design Calculation certified by a professional engineer licensed in Puerto Rico.
2. Samples:
    a. Furnish a sample if necessary.

B. Informational Submittals:

1. Operation and Maintenance Data.
2. Manufacturer's Field Service Report.
3. Certification of professional engineer.
4. Manufacturer's Certificate of Proper Installation

1.04 QUALITY ASSURANCE

A. Qualifications of Supplier: Recognized supplier of aluminum products, with warehousing facilities, who has been furnishing the materials in vicinity of project for not less than 5 years, and who is, or who employs, a professional engineer consultant.

B. Qualifications of Engineer Consultant:

1.05 DELIVERY, STORAGE, AND HANDLING

A. Before delivery, clearly identify and tag each item of hardware with respect to specified description and location of installation.

B. Provide secure storage for finish material until installation is made.

PART TWO – PRODUCTS

2.01 MATERIALS

A. Aluminum alloy 6061-T6 structural members and grating. Stainless steel Type 316 anchorage and fasteners. Serrated bar grating unless noted otherwise.

B. Design loading: 100 psf uniform live load, 300 lb concentrated load, maximum deflection L/240 [A: Some products listed below may not be used on this Project.

C. Handrails shall be 42 inches high with midrail and 4-inch toe plate where required.

D. Furnish all materials, with support, fasteners, handrails, guards, and accessories required for complete installation

2.02 ACCESORIES

A. Rivets, screws,bolts,and nuts Shall be of SS 316

2.03 SIZES

A. The material sizes shown in the drawings are referential. The manufacturer’s structural engineer shall size the walkway grating and stairs

PART THREE - EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer recommendations and approved shop drawings. Secure all grating with hold-down clips. Field verify dimensions before fabrication.

B. Make the grating walkway firmly installed so that it does not bend nor tilt with any possible load

C. Make Work neat and secure, develop full strength of components, and provide proper function.

D. Prevent marring, scratching, or otherwise damaging adjacent finishes during installation.

3.02 MOUNTING DIMENSIONS

A. According to the construction drawings,

END OF SECTION

SECTION 112140
VERTICAL TURBINE PUMPS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: Furnish all labor, materials, tools and equipment necessary to furnish and install all vertical turbine pumps, fittings and appurtenances as shown on the Drawings and specified herein.

The work includes two (2) backwash pumps, two (2) distribution pumps.

B. Related work specified elsewhere:

1. Mechanical General Provisions – 150100
2. Ductile Iron Pipe and Fitting (Force Mains) - Section 15C031
3. Process Valves - Section 150900
4. Pressure Gages and Transmitters - 151300
5. Electrical - Division 16

1.02 QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section and as listed in Section 010850.

B. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

1. The pump manufacturer shall be certified to the ISO 9001 standard for design and manufacture of vertical turbine pumps
2. The manufacturer shall be capable of producing vertical turbine pumps certified to NSF/ANSI 61 & 372.
3. The manufacturer shall own and operate its own U.S. based foundry producing vertical turbine components.

C. Testing Standards: All vertical turbine pumps shall conform to ANSI/AWWAE101-88 and to the most current edition of Hydraulic Institute Standards.

D. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340 of these Specifications.

B. Fabrication and Assembly drawings: the contractor shall submit complete fabrication and

assembly drawings together with detailed specifications covering materials, parts, devices, and accessories. The data and specifications for each pumping unit shall include, but not be limited to the following:

Name of Manufacturer
Type and Model
Design Rotational Speed
Number of Stages
Type of Bowl Bearings
Type of line shaft bearings
Size of Shafting
Size of Pump Column
Size of Discharge Outlet
OD of Pump Bowls
Can Diameter
Weight
Type of Finish
Total Weight
Total Pump Length
Complete performance curves showing capacity versus head, NPSH required, efficiency, and BHP plotted scales consistent with performance requirements

C. Shop drawings: As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Complete bill of materials for all items proposed to be furnished and installed under this Section.
2. Complete shop drawings of all items to be furnished.
3. Manufacturer's specifications, pump performance curves and other data required to demonstrate compliance with specified requirements.
4. Manufacturer's recommended methods of installation.

The manufacturer's recommended methods of installation, when approved by the ENGINEER, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

D. Operation and maintenance manuals: The CONTRACTOR shall furnish complete operation and maintenance manuals for all applicable equipment.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects

in materials and workmanship for a minimum of one (1) year following acceptance by the OWNER.

PART TWO - PRODUCTS

2.01 GENERAL

To ensure that the specified equipment conform to design conditions and for the purpose of standardization, all equipment furnished under this Section shall be supplied by the same manufacturer. Pumps shall be Goulds, or approved equal.

2.02 REQUIREMENTS

		Back Wash	Distribution Pumps
A.	Model:	VIT, DITM 6CHC	VIT, DITM 10WALC
B.	Stages:	4	8
C.	Turbine diameter:	4.2 inch	4.87 inch
D.	Discharge connection:	4 inch, 150 # flange	7.31 inch, 150 # flange
E.	Design capacity:	140 GPM @ 65 ft. TDH.	347 GPM @ 340 ft. TDH
F.	Power:	480 Volts, 3-Phase, 60 Hz.	480 Volts, 3-Phase, 60 Hz.
G	Drive:	N/A	N/A

2.03 PUMPS

A. General: Vertical turbine pumps shall be suitable for use in potable water service and shall meet all applicable AWWA requirements. All pumps and motors shall be designed specifically for continuous operation in a vertical position as manufactured by Goulds Water Technology, A Xylem Brand, or approved equal.

B. Materials of construction:

1. Pump Shaft: Stainless steel.
2. Impellers: SST 316L, ASTM-A743.
3. Bowls: Bronze.
4. Wear Rings: Bronze.
5. Inlet Strainer: Stainless steel.
6. Motor Coupling: Stainless Steel.

C. Pump barrels: Each pump shall be supplied with a schedule 40 carbon steel barrel suitable for vertical in-line mounting. A 1/4-inch NPT boss shall be welded to the top of each barrel to accommodate an air release valve. Barrels shall be supplied with suction and discharge flanges as noted above. Inside of barrels to be factory coated with a 10 mil, 100% solids epoxy finish. Outside of barrels to be factory primed and field finished in accordance with Section 09900.

D. Bowl Assembly

1. The suction bell shall be designed to provide conservative entrance velocities and direct the flow to the first stage impeller. The inner surface of the suction bell shall be smooth and free of sharp projections which could cause turbulence or cavitation. The suction bell shall be designed to house the suction bell bearing by means of four vanes.
2. The bowls shall be smooth and free of sharp projections and shall have register fits for alignment and be connected by flanged and bolted construction. Bowl sizes 6" to 15" shall be porcelain enameled on the bowl interior.
3. The impellers shall be machined and finished smooth to insure proper performance. They are to be balanced prior to assembly. The impellers shall be connected to the bowl shaft by means of collet design

E. Column Assembly

1. The column shall include threaded connections and shall be of open lineshaft design with product lubrication.
2. The bearing spacing shall be selected to insure operation at a minimum of 25% above or below the first critical speed. Bearing spacing shall not exceed 5 feet.
3. The interior of the column shall be free of offsets, burrs, discontinuities and irregularities.
4. The lineshaft shall be of adequate size to transmit the full power of the pump without slip, excessive vibration or elongation, and shall have threaded joints. Lineshaft lengths shall not exceed 10 feet. The lineshaft shall have left hand threads that tighten during pump operation.

F. Discharge Head Assembly

1. The discharge head shall be fabricated steel type T.
2. For above ground service, the discharge head shall be fitted with a flanged discharge connection. The flange shall be a 150 LB R.F. ANSI flange for fabricated steel heads. The discharge head shall be designed to carry the entire weight of the complete pump and driver without distortion when spanning an opening of sufficient size to permit removal of the complete pump assembly. The discharge head shall be provided with a coupling guard. Lifting lugs shall be provided as standard.
3. The stuffing box shall be designed for 6 rings of packing and lantern ring. An extra-long bearing shall be located below the packing in the stuffing box. Packing lubrication leakage through the stuffing box shall be drained back to the sump. The packing gland shall be of a two-piece design.

G. Driver

The driver will be a VHS electric motor. The driver and any related equipment will ship unmounted from the pump to ship.

2.04 COATING

A. The bowl assembly exterior shall be coated with Tnemec 141; minimum dry film thickness 16 mils.

B. The column assembly interior and exterior shall be coated with Tnemec 141; minimum dry film thickness 16 mils.

C. The head assembly interior shall be coated with Tnemec 141; minimum dry film thickness 16 mils.

D. All other surfaces not in contact with the pumped fluid shall be coated with Goulds Water Technology standard blue enamel.

2.05 TESTING

A. All factory testing shall conform to the most current edition of the Hydraulic Institute Standards. All pump performance testing shall be performed at the manufacturer's facility.

B. Performance testing shall be non-witnessed and performed on the bowl assembly only with lab motor. The test shall cover seven points including the design point (HI 14.6). The design point shall be used for any performance evaluation.

C. Hydrostatic testing shall be non-witnessed in compliance with HI14.6. Hydro testing is to be performed on the pressure containing components. Certified test results shall be provided prior to shipment.

D. A written approval for all witness testing is required prior to release for shipment. All non-witness testing shall require no written approval prior to release for shipment.

E. Field/functional testing will be performed by the contractor to insure proper mechanical operation at the jobsite. All testing data to be used for evaluation shall be performed at the pump manufacturer's facility.

2.06 MOTORS

A. General: Motors shall be water lubricated intended for vertical mounting in a potable water pumping application. Motors shall be constructed with all bronze and/or stainless-steel wetted parts.

B. Stator design: Motors shall have a dry stator design with hermetically sealed windings pressure tested to 430 psi.

C. Mechanical seal: A heavy-duty Kingsbury-type thrust bearing with 431 stainless steel shoes and phenolic face shall be used in all models. Bearing thrust capacity shall be at least 1,500 lbs. 431 stainless steel and bronze upthrust bearings shall be provided to absorb momentary upthrust on starting. Journal bearings shall be bronze and stainless steel.

D. Rotor: Dynamically balanced with copper bar construction.

E. Motor leads: Plug-in with built-in water stops to prevent entry of water into windings if cable is damaged.

F. Expansion chamber: An expansion chamber and breather diaphragm shall be utilized to equalize pressure inside and outside the motors.

2.07 AIR RELEASE VALVES

Air release valves shall be mounted at the high points of the pump discharge lines. Valves shall be as described under Section 150600 -VALVES.

PART THREE - EXECUTION

3.01 INSPECTION

Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 SHIPPING

Pumps that are less than 30 feet in length shall be shipped fully assembled with the driver, suction can, and shaft seal unmounted. The discharge flange shall be protected with a wooden flange cover.

3.03 STORAGE, HANDLING, AND INSTALLATION

The skidded pump and related equipment shall be unloaded, stored, and installed in agreement with the Manufacturer’s operation and installation manuals. If storage is planned to be longer than six months or in harsh environment, long term storage practices should be followed per the Manufacturer’s operation and installation manuals.

3.04 INSTALLATION

Vertical in-line turbine pumps shall be installed as shown on the Drawings and in accordance with Section 150100 - MECHANICAL GENERAL PROVISIONS.

3.05 ELECTRICAL CONNECTIONS

All external wiring, conduits and connections shall conform to provisions of DIVISION 16 - ELECTRICAL.

3.06 TECHNICAL DIRECTION

The pump manufacturer shall provide the services of a trained, qualified technician for one (1) eight-hour day, one (1) trip for the purpose of assisting and inspecting the installation to ensure compliance with the shop drawings and the manufacturer's recommended installation practices.

The technician shall be responsible for the check-out, initial start-up, certification of the pump curves, as well as the instruction of maintenance personnel.

3.07 TESTING

The pumps shall be tested as the manufacturer's plant before shipment. Submit certified copies of the non-witnessed performance curves to the ENGINEER. The pumps shall be tested in accordance with the Hydraulic Standards Institute.

3.08 START-UP FIELD SERVICES

The pump manufacturer shall include two days of start-up field services with the proposal for the purpose of supervising the start-up and instructions of proper maintenance and operations.

Service Provided By Factory Representative	Time on Site
Inspect and Approve Installation	½ Day
Supervise Initial Adjustment	½ Day
Supervise Field Run Test	½ Day
Instruct Owner in Proper Start-Up and O&M	½ Day

Additional time on site shall be billed at the rate deemed by the manufacturer.

END OF SECTION

SECTION 112150
PUMPS CONTROLS

PART ONE – GENERAL

1.01 GENERAL REQUIREMENTS

This specification shall cover a complete Pump Control System for operation of two (2) pumps consisting of two- 5 HP vertical turbine water pumps, and two (2) pumps consisting of two- 50 HP vertical turbine water pumps as hereinafter described with all necessary appurtenances which might normally be considered a part of the complete electrical system for this installation. It shall be factory assembled, wired, and tested and covered by complete electrical drawings. This Pump Control System shall communicate with the SCADA System supplied by others.

The Pump Control System shall start and stop the pumps and annunciate alarms according to the Sequence of Operation as described herein.

A. The entire system shall be constructed in strict accordance with the latest published standards of NEMA, IEEE and ANSI. Wherever possible, control system components shall be Underwriters Laboratory listed. All control hardware shall be factory assembled, wired, and thoroughly tested prior to shipment.

B. The main power circuit breaker shall be rated as suitable for use as a service entrance. All wiring shall have not less than 600-volt insulation and all power wiring and bus shall be in complete conformity with the National Electric Code and state and local and NEMA Electrical Standards. Control wiring shall be color-coded.

C. Related work specified elsewhere:

1. In-line Vertical Turbine pumps - Section 112140
2. Mechanical General Provisions - Section 150100
3. Electrical – Division 16

1.02 QUALITY ASSURANCE

All of the equipment listed herein shall be furnished by the same single supplier as supplies the pumps under Section 112140. The supplier shall be responsible for the correct operation of the equipment as specified.

The panel manufacturer shall be certified by Underwriters laboratories, (U.L.) to manufacture U.L. 508A and U.L. 698 control panels and shall present their certification documentation with submittal drawings.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with the General Conditions and Section 013340 of these Specifications.

B. Shop drawings: Shop drawings shall be submitted with anticipation to allow coordination with shop drawings submitted under Section 112140. As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Panel manufacturer certification.
2. Panel layout and dimensional drawings.
3. Complete bill of materials, components product data and specifications.
4. System schematic drawings illustrating all components being supplied. Actual system schematic drawings shall be provided. Manufacturers catalog cuts or standard drawings merely showing "typical" circuitry are not acceptable.
5. Internal and input / output wiring diagrams.
6. Recommended spare parts list.
7. System operational description.

C. Operation and maintenance manuals: The CONTRACTOR shall furnish complete operation and maintenance manuals for all applicable equipment as required by Section 017800.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in materials and workmanship for a minimum of one (1) year following acceptance by the OWNER to the effect that any defective equipment shall be repaired or replaced without cost or obligation to the OWNER.

PART TWO - PRODUCTS

2.01 WIRING

All wiring shall have not less than 600 volt insulation and all power wiring and bus shall be in complete conformity with the National Electric Code and state and local and NEMA Electrical Standards. Control wiring shall be color-coded.

2.02 CONTROL FEATURES

A. Power Supply and Enclosure: The power supply to the Control Panel will be 460 volt, 3-phase, 3 wire, 60 Hertz. The described equipment shall be housed in a gasketed NEMA 4X “dead-front” enclosure with locking handle on the exterior, approximately 36" wide, 60" high, 16" deep. The enclosure shall be constructed of T304 Stainless Steel. All operating components and indicating lights shall be NEMA 4X and shall be mounted on the inner door. All major components and subassemblies shall be identified as to function with laminated, engraved bakelite nameplates or similar approved means.

The enclosure door shall be gasketed with a rubber composition material around the perimeter and shall be installed with a retainer to assure a positive weatherproof seal. The door shall open a minimum of 180 degrees. A padlock hasp shall be provided. A polished inner door shall be mounted on a continuous aluminum aircraft type hinge and shall contain cutouts for the protrusion of the circuit breakers and provide protection of the personnel from internal live voltages. All control switches, pilot indicators, elapsed time meters and other operational devices shall be mounted on the external surface of the dead front.

The dead front door shall open a minimum of 150 degrees to allow for access to the equipment for maintenance. A ¾" break shall be formed around the perimeter of the dead front to provide rigidity.

A back plate shall be manufactured from 12 gauge sheet steel and be finished with a primer coat and two {2} coats of baked-on white enamel. All hardware shall be mounted using stainless steel machine thread screws. Sheet metal screws shall not be acceptable. All installed devices will be permanently identified with engraved legends.

B. Power Distribution: The panel power distribution shall include all necessary components and be wired with stranded copper conductors rated at 90 degrees "C". Conductor terminations shall be as recommended by the device manufacture.

The power system shall contain incoming power terminals, motor circuit breakers and control circuit breaker. All circuit breakers shall be heavy duty thermal magnetic or motor circuit protector similar and equal to Square "D" type "FAL". Each breaker shall be sized to adequately meet the operating conditions of the load and have a minimum interrupting capacity of 10,000 amps at 230v and 18,000 at 460v. Breakers shall be indicating type, providing an "on-off tripped", positions of the handle. They shall be quick make-quick break on manual and automatic operation and have inverse time characteristics. Breakers shall be designed so that tripping of one pole automatically trips all poles.

Motor starters shall be soft start/soft stop type. Motor starter contacts and coil shall be replaceable from the front of the starter without removal of the starter from its mounted position. Overload heaters shall be block type, utilizing melting alloy spindles, sized for the full load amperage of the load. Adjustable overloads, definite purpose contactors, fractional size starters and horsepower rated contactors or relays shall not be used.

A lightning-transit protector shall be provided. The device shall be a solid-state device with a response time of less than 5 nanoseconds with a withstanding surge capacity of 6500 amperes. Units shall be instant recovery, long life and have no holdover currents

The following components will be supplied as standard equipment.

1. 12 pin plug in phase/voltage monitor shall be supplied with two double pole double throw contacts.
2. NEMA 4 rated Hand Off Auto switches.
3. Run/ failure lights as required.
4. Elapsed run time meters.
5. Alternation with lead /lag selector/ test switch/indicators.
6. 50-watt condensation heater and thermostat.
7. Control wiring to be 18 AWG copper-tinned rated at 105 degrees C.

8. Each wire shall be numbered corresponding to the wiring diagram.
9. Single phase capacitor banks will be provided when required.

C. Surge Arrestor: A surge arrestor shall be supplied in the control panel and be connected to each line of the incoming side of the power input terminals. The arrestor shall protect the controls against damage due to power surges on the incoming power line.

D. Phase Failure / Undervoltage Pump Protection: Phase-loss/unbalance/reversal and under-voltage protection assembly with adjustable nominal voltage setting shall be provided with circuit protection. This device shall automatically lockout pump operation if all phases drop below 90% or if one phase drops below 80-83% nominal voltage. This device shall have a nominal 1/2 second dropout delay and adjustable restoration time delay of up to 1000 seconds. Phase loss indication shall be transmitted to the SCADA system. Device shall be SSAC PLMU11 manufactured by ABB.

E. Circuit Breakers and Motor Starters: A thermal-magnetic circuit breaker shall be supplied as branch protection for each pump. A separate main circuit breaker with handle sized for the total panel power consumption shall be provided to control the primary power source to the panel. The circuit breaker must have a minimum ampere interrupting capacity of 14,000 symmetrical RMS amps.

F. Control Selector Switches and Indicating Lights: An inner-door mounted, 22 mm diameter, "Hand-Off-Auto" three-position, rotary, oil-tight, heavy-duty type selector switch shall be furnished for each pump. An inner-door-mounted, 22 mm diameter, oil-tight pilot light with a "Green" lens and replaceable bulb shall be provided for each pump "running" condition.

G. Motor Overload Sensing: An inner-door mounted, 22 mm diameter, oil-tight light with a Red lens and a replaceable bulb shall be provided for each pump to indicate a “motor overload” condition as sensed by each of the pump motor starters.

H. Condensation Protective Heater: A 100 Watt, 120 VAC condensation protective heater and high temperature cutout thermo switch shall be supplied in the control panel. The heater's surface area for heat dissipation shall be large enough to prevent a skin burn.

I. Running Time Meters: An inner door mounted, 120 VAC powered running time meter measuring hours and tenths of hours of operation up to 99999.9 hours shall be furnished for each pump. The time meters shall be wired to the motor side of each starter.

J. Alarm Status: The Pump Control System shall monitor various alarms and status points for local indication on the pump control panel and communication with the SCADA System. The Pump Control System shall cause the output contacts to close during an alarm condition and shall generally open when the alarm condition clears. The control panel shall provide a dry contact closure output representing each status/alarm point for interface to the SCADA system. Those conditions that require operator acknowledgement will not clear until manually acknowledged at the control panel. Alarm/status functions are shown in the Sequence of Operation below.
The Overload alarm conditions shall cause the respective pump to be de-energized and shall remain locked out of service until manually acknowledged at the control panel. Lock-out of a pump shall cause the next-in-line pump to operate as directed by the SCADA system.

Any alarm condition listed above shall power an externally mounted visual alarm light. The alarm light shall be mounted on the top of the enclosure and shall be enclosed by a NEMA 4 rated red cover with protective cage. The light shall flash during alarm conditions. A separate “Alarm Acknowledge” button shall be mounted on the outer door of the control panel.

K. Auxiliary Control: Auxiliary control relays shall be provided to perform the interlocking sequential and general control functions, and shall be for operation on 120 volts, 60 cycles, with contacts rated 10 amperes at 120 volts, AC, and shall be equipped with the number of normally open and normally closed contacts required. Control relays shall be OMRON MK2 P-S with indicator lights.

L. Transformer: A control power transformer (CPT) with fused primary and secondary shall be provided to reduce the control voltage to a maximum of 120 VAC and shall be sized to meet all control requirements. Provide a transformer when the voltage is 3/208 VAC, 3/240 VAC, 3 wire and 3/480 VAC. Transformer may be deleted where a neutral is supplied to provide 120 VAC line to neutral voltage.

M. Additional Functionality: The following options shall also be provided:

1. Main disconnect switch accessible from inside panel.
2. Lightning arrester to limit power surges.
3. Stainless steel enclosure.
4. Green run lights.
5. NEMA rated starters.
6. Intrinsically safe relays.

2.03 “AS-BUILT” WIRING DIAGRAMS

Wiring diagrams shall be furnished for the control panel and shall be encased in plastic or Plexiglas envelopes. These diagrams shall represent the “as-built” circuitry and shall include all equipment and shall show connections from numbered terminal blocks to external equipment. Color-coding and relay terminal numbers shall be indicated. At the CONTRACTOR’s option, these drawings may be photographically reduced to facilitate placement and encasement, but must be legible.

PART THREE - EXECUTION

3.01 INSTALLATION

A. General: Equipment shall be installed in accordance with manufacturer's recommendations to provide a complete installation.

B. Equipment manufacturer's service representative: The services of a factory trained field representative shall be provided to ensure proper installation and operation of the Pump Control System. Services shall be provided for one day, (8 hours), and shall include operation training for PRASA personnel, pump start-up and pump performance testing. Following start-up, the pump control system manufacturer shall provide the ENGINEER and OWNER with written certification of actual system operating performance.

3.02 ELECTRICAL CONNECTIONS

All external wiring, conduits and connections shall conform to provisions and requirements of the NEC and DIVISION 16 - ELECTRICAL.

PART FOUR – SEQUENCE OF OPERATION

4.01 IN-LINE VERTICAL TURBINE PUMPS

Operation of the pumps shall be based upon the liquid level reflected in the pressure switch at the discharge pipe of each pump station. As the pressure drops to the first set point one of the pumps will start. As the water pressure reaches the high set point, the pump will stop. The two pumps will alternate.

4.02 TABULATED LIST OF CONTROL / MONITORING POINTS

Following is a list of control/monitoring points:

A. PUMP CONTROLS I/O LIST

Equipment	Signal	I/O Type
Pump Control Panel	Pump Running	DO
Pump Control Panel	Pump Fail	DO
Pump Control Panel	Pump	DI
Pump Control Panel	HOA Auto Pump	DO

END OF SECTION

SECTION 112190
MIXERS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: Furnish all labor, materials, tools and equipment necessary to furnish and install vertical mixers, complete with motor, blades, fittings and appurtenances, and in-line static mixers as shown on the Drawings and specified herein.

The work includes one (1) rapid mixer to mix chemicals, two (2) slow mixers to encourage produce flocs, and one (1) static mixer.

B. Related work specified elsewhere:

1. Mechanical General Provisions – 150100
2. Ductile Iron Pipe - Section 15C031
3. Process Valves - Section 150600
4. Pressure Gages and Transmitters - 151300
5. Electrical - Division 16

1.02 QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section and as listed in Section 010850.

B. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

1. The mixer manufacturer shall be certified to the ISO 9001 standard for design and manufacture of vertical mixers for water treatment.
2. The manufacturer shall be capable of producing vertical mixers certified to NSF/ANSI 61 & 372. All parts in contact with water shall be certified NSF 61 std."
3. The manufacturer shall own and operate its own U.S. based foundry producing vertical mixers.

C. Testing Standards: All vertical turbine pumps shall conform to ANSI/AWWAE101-88 and to the most current edition of Hydraulic Institute Standards.

D. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 01300 of these Specifications.

B. Fabrication and Assembly drawings: the contractor shall submit complete fabrication and assembly drawings together with detailed specifications covering materials, parts, devices, and accessories. The data and specifications for each pumping unit shall include, but not be limited to the following:

Name of Manufacturer
Type and Model
Design Rotational Speed
Gear reduction ratio
Blades
Weight
Type of Finish
Total Weight
Total mixer length
Complete performance curves, efficiency, and BHP plotted scales consistent with performance requirements.

C. Shop drawings: As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Complete bill of materials for all items proposed to be furnished and installed under this Section.
2. Complete shop drawings of all items to be furnished.
3. Manufacturer's specifications, pump performance curves and other data required to demonstrate compliance with specified requirements.
4. Manufacturer's recommended methods of installation.

The manufacturer's recommended methods of installation, when approved by the ENGINEER, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

D. Operation and maintenance manuals: The CONTRACTOR shall furnish complete operation and maintenance manuals for all applicable equipment.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in materials and workmanship for a minimum of one (1) year following acceptance by the OWNER.

PART TWO - PRODUCTS

2.01 GENERAL

To ensure that the specified equipment conforms to design conditions and for the purpose of standardization, all equipment furnished under this Section shall be supplied by the indicated manufacturer.

2.02 STATIC MIXER

A. The static mixer shall be suitable for potable water service and shall meet all applicable AWWA requirements.

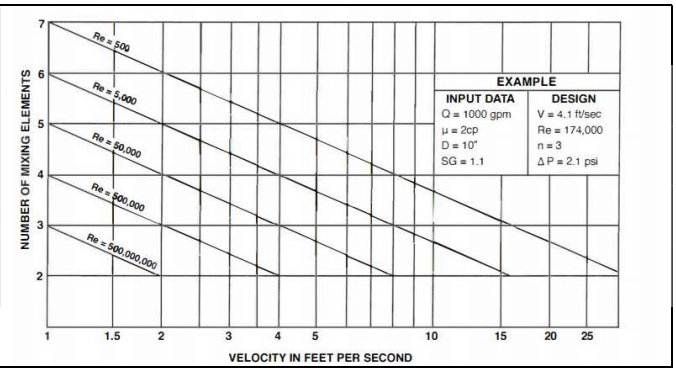
B. The static mixer shall provide a coefficient of variance of 0.05 or less at no more than three pipe diameters downstream of the mixer.

C. The raw water static mixer shall of stainless Steel 316, 8" in diameter, flanged both ends as per ASME B16.5, and provided with the five (5) 8" diameters mixing elements. The head loss through the mixer shall not exceed 1 psi. The manufacturer shall provide headloss calculations.

D. The mixer shall be Komax "M" Series, as manufactured by Komax Systems. Inc, or approved equal.

E. Design Parameters:

Average Flow (Q)	347	GPM
Pipe Diameter (D)	8	in
Velocity (V) = .408Q/D^2	**1.771**	ft/s
Specific Gravity (S)	1.1	
Viscosity (μ)	2	cp
Re= 3157QS/μD	60,290	



F. The static mixer shall be of 8" diameter stainless steel Komax "M" Series, as manufactured by Komax Systems. Inc, or approved equal.

2.03 FLASH MIX MIXER

A. General: Vertical mixer shall be suitable for use in potable water service and shall meet all applicable AWWA requirements. The mixer and motor shall be designed specifically for continuous operation in a vertical position as manufactured by Brawn Mixer, Holland,

MI, Model 5BTO15-163, or approved equal.

B. Requirements: To be installed in a 0.90 m x 0.90 m x 0.90 m water depth SS tank.

1. Number:	One (1)
2. Type:	Fixed Plate Mount, Rigid Coupling
3. Velocity Gradient (G) Range	500 to 850 sec^{-1}
4. Design capacity:	0.50 MGD
5. Power:	480 Volts, 3 Phase, 60 Hz.
6. Motor:	Inverted Rated TEFC
7. Motor Speed:	1750 RPM
8. Gear Reduced Speed:	163 RPM.
9. Ratio:	10.71:1
10. Blades	Single 24", 4-Bladed R904 Radial. With stabilizer 304SS

2.04 SLOW MIX (FLOCCULATION) MIXER

A. General: Vertical mixer shall be suitable for use in potable water service and shall meet all applicable AWWA requirements. The mixer and motor shall be designed specifically for continuous operation in a vertical position as manufactured by E&I Corporation, Holland, MI, or equal.

B. The flocculator mechanism shall be designed to achieve mixing by controlled agitation and provide for a proper build-up of floc as the water flows through the basin. The flocculator shall incorporate a series of paddles and arms to obtain the specified "GT" (gradientxHRT)

C. Main Shaft: The vertical main shaft shall consist of a removable paddle wheel assembly 8'-4" feet in diameter. The mixer shall have four (4) blades consisting of four (4) 8'-4"x 6" paddles each. The paddles shall be of fiberglass reinforced plastic fastened to the structural paddle arms. The paddle arms shall be designed to resist all operating forces and attach to a hub on the main shaft.

The flocculator main shaft shall be supported at the upper end by a tapered roller bearing mounted in the drive base assembly. This bearing shall be suitable to handle all static and dynamic loads created by the paddle wheel assembly. An underwater guide bearing shall hold the flocculator main shaft in position at the lower end. The main shaft shall be connected to the reducer output shaft by a flexible coupling. The flexible coupling shall be sized such that any misalignment or imbalance of the main shaft is not transmitted to the reducer.

D. Drive: The drive unit shall be a helical gear reducer running in an oil bath. The reducer shall have a service factor of 1.25 for 24-hour operation. The drive motor shall be a (minimum) NEMA, Design B, totally enclosed, fan cooled. The unit shall operate on 230/460 volts, 3 phase, 60 hertz, and be not less than 0.25 horsepower.

The variable speed unit shall be directly connected to the input shaft of the reducer and be an enclosed unit capable of functioning in humid environments without slipping. The unit must be complete with corrosion-resistant driving disc matched to long life synthetic driven

rings, air-cooled and fitted with synthetic oil for varied ambient temperatures and minimum maintenance. A built-in torque compensator must be supplied to increase or decrease the friction pressure for start-up or an overload. All rotating components must be dynamically balanced to prevent vibrations.

E. Requirements: To be installed in a 1.60 m. x 1.60 m. x 3.05 m. water depth stainless steel tank,

1.	Number:	Two (2)
2.	GT	1st Stage 46,554, 2nd stage 38,950
3.	Design Capacity:	0.25 MGD
4.	Drive Motor:	1/2 HP motor, 208 V, TEFC, Inverter Duty–VFD controlled
5.	Drive Base Plate:	304 SS
6.	Drive:	Flexible Coupling to vertical shaft
7.	Vertical Reel Shaft:	304SS
8.	Paddles:	FRP, 2” x 6” x 8’-0” L
9.	Filler Blocks:	Polypropylene
10.	Angle Arms:	3” x 3” x ¼”, 304SS
11.	Brace Bars:	2” x ¼”, 304SS
12.	Lower Guide Bearing:	Pillow Block Type, Cast Iron housing, babbitt lined.
13.	Guide Support:	304SS
14.	Control Panel:	NEMA 4
15.	Controller:	VFD Controller
16.	Anchor Bolts:	304 stainless
17.	Field bolts:	304 stainless

F. Painting: All structural steel shall be commercially sandblasted, and shop primed with 3 to 5 mils (dry) Tnemec #66-1211 or approved equal. Bearing surfaces and shafts shall be grease coated, dipped, or sprayed with a rust inhibiting slushing compound.

PART THREE - EXECUTION

3.01 INSPECTION

Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 SHIPPING

Mixers shall be shipped fully assembled or unassembled. If unassembled, the manufacturer shall be responsible for the assembly.

3.03 STORAGE, HANDLING, AND INSTALLATION

The mixer shall be unloaded, stored, and installed in agreement with the Manufacturer’s operation and installation manuals. If storage is planned to be longer than six months or in harsh

environment, long term storage practices should be followed per the Manufacturer's operation and installation manuals.

3.04 INSTALLATION

The mixers shall be installed as shown on the Drawings and in accordance with Section 150100 - MECHANICAL GENERAL PROVISIONS.

3.05 ELECTRICAL CONNECTIONS

All external wiring, conduits and connections shall conform to provisions of DIVISION 16 - ELECTRICAL.

3.06 TECHNICAL DIRECTION

The pump manufacturer shall provide the services of a trained, qualified technician for one (1) eight-hour day, one (1) trip for the purpose of assisting and inspecting the installation to ensure compliance with the shop drawings and the manufacturer's recommended installation practices.

The technician shall be responsible for the check-out, initial start-up, certification of the pump curves, as well as the instruction of maintenance personnel.

3.07 TESTING

The mixers shall be tested as the manufacturer's plant before shipment. Submit certified copies of the non-witnessed performance to the ENGINEER. The mixers shall be tested in accordance with the Hydraulic Standards Institute.

3.08 START-UP FIELD SERVICES

The mixers manufacturers shall include two days of start-up field services with the proposal for the purpose of supervising the start-up and instructions of proper maintenance and operations.

Service Provided By Factory Representative	Time on Site
Inspect and Approve Installation	½ Day
Supervise Initial Adjustment	½ Day
Supervise Field Run Test	½ Day
Instruct Owner in Proper Start-Up and O&M	½ Day

Additional time on site shall be billed at the rate deemed by the manufacturer.

END OF SECTION

SECTION 112195
MANUFACTURED WATER TREATMENT EQUIPMENT

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: It is the intent of the Drawings and these Specifications that the CONTRACTOR provides all labor, materials, tools and equipment necessary to furnish and install one (1) 0.25 MGD water treatment system module, fully operational and functional, complete with all controls and appurtenances, as shown on the Drawings and specified herein. The filter system shall control the operation of the backwash pump. The new module shall operate synchronized with the existing treatment module.

B. The treatment system is intended for turbidity removal.

C. Qualified manufacturers of water treatment equipment shall be engaged in the manufacture of this type of equipment for a period of not less than (10) years. The plant shall be as specified in the construction drawings. Acceptable manufacturers are Aqua-pak, Trident, Aqua Floc, or ENGINEER's approved equal.

D. The system, in compliance with equipment specifications, is described as an automatic water treatment system meeting the design data requirements as hereinafter specified.

E. The system specifications are based on standard design criteria as required by PRASA.

F. Related work specified elsewhere:

1. Mixers-Section - 112190
2. Process Piping - Section 150600
3. Process Valves - Section 150900
4. Tube Settlers – 112200
5. Filters - 112210
6. Magnetic Flow Meter – 113250
7. Water Treatment Chemicals - 113300
8. Electrical - Division 16

1.02 QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section and as listed in Section 010850

B. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

C. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

D. Under normal operating conditions, the media shall not be washed out of the system during backwash or service.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340.

B. Shop drawings: As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Complete bill of materials for all items proposed to be furnished and installed under this Section.
2. Complete and fully dimensioned shop drawings of all items to be furnished.
3. Manufacturer's specifications and other data required to demonstrate to the satisfaction of the ENGINEER compliance with specified requirements.
4. Manufacturer's recommended methods of installation: The manufacturer's recommended methods of installation, when approved by the ENGINEER, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

C. Operation and maintenance manuals: The CONTRACTOR shall furnish complete operation and maintenance manuals for all applicable equipment.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in design, materials, and workmanship for a minimum of one (1) year following acceptance by the OWNER.

Any mechanical equipment proving defective in workmanship or material within one year after installation or 18 months after shipment, whichever comes first, shall be replaced FOB factory.

1.06 PERFORMANCE GUARANTEE

Upon certification of proper installation and successful startup by the supplier’s representative, the treated water quality shall comply with all applicable PRASA standards for the constituents identified above. In conjunction with the filtration system, the treatment unit shall consistently produce effluent with a turbidity not exceeding 0.1 NTU under normal operating conditions.

PART TWO - PRODUCTS

2.01 GENERAL

A. Design Basis: Design is based on conventional parameters for Rapid mix, flocculation and sedimentation. Treatment units will be made of Stainless Steel 316. The plant system consists of one 0.25 MGD module.

B. The treatment module will consist of a 2-stage flocculation unit and a sedimentation tank. A flash mix unit and a flow splitter box will be attached to it.

C. System Manufacturer: To assure unit responsibility and equipment compatibility, all components of the turbidity removal system, except as specifically indicated herein, shall be supplied to the CONTRACTOR by a single manufacturer. These components shall include but not be limited to: the tanks; equipment; internal plant piping and appurtenances; inlet and outlet devices, control valves, flow meters; pressure gauge; controls; instrumentation; and all required accessories.

The system manufacturer will be required to supply the chemical feed systems and to coordinate with the suppliers of all the ancillary equipment necessary to put in operation the whole filtration system. Face piping supported by free standing pipe supports shall be installed at the Project site by the CONTRACTOR.

The manufacturer of the system shall satisfy the following requirements:

1. The manufacturer shall have regularly engaged in the design, manufacture, and placement into service of successfully operating systems of the type and size specified herein. References shall be provided to the ENGINEER upon request.

2. The manufacturer shall maintain a qualified staff of design, manufacturing and service personnel.

3. The manufacturer shall have the financial capability to provide the system specified herein in a timely manner.

4. Where major components of other manufacturer(s) are proposed for incorporation into the system, the system manufacturer shall engage and pay for the services of a qualified service engineer(s) of said other manufacturer(s) for the purposes of ensuring proper installation, adjustment, and placement into service.

5. The manufacturer shall accept responsibility for satisfactory operation of the system specified herein.

6. The manufacturer shall furnish the OWNER written guarantee that the system will consistently produce effluent conforming to the requirements of these Specifications.

C. The CONTRACTOR shall furnish the OWNER with such certification and documentation as the OWNER may require establishing that the proposed manufacturer satisfies the requirements listed herein. The OWNER shall have sole authority for evaluating the qualifications and of approving the proposed manufacturer.

2.02 SYSTEM REQUIREMENTS

A. General: The turbidity removal system shall be specifically designed and manufactured to provide treatment of surface water originated in Rio Guilarte for turbidity removal under the specified flow and operational constraints with a minimum of operator attention.

B. Module average design flow: 0.25 MGD

C. Raw water quality:

1.	Turbidity, NTU `	5 to 500
2.	pH:	6.8/7.50

D. Finished Water Quality:

1.	Turbidity	Less than 0.1 NTU.
2.	pH	6.8/7.5.

(The plant will have the capacity to produce the specified water quality effluent under normal operation conditions).

2.03 PLANT AND APPURTENANCES

A. Tanks

The tanks shall be of welded construction of tank-quality 316 L Stainless Steel. The tank(s) shall be rated for 15 psig working pressure. Structural angle SS legs welded to tank side shell shall be provided on tanks. A minimum freeboard of one (1) foot shall be provided according to AWWA D100

1. Working pressure: to be 15 pounds per square inch gauge (psig), hydrostatically tested to 15 psig stamped and certified.

2. Finish: Provide safety blue epoxy finish paint 6-8 mils DFT over exterior tank and valve surfaces.

3. Dimensions: The dimensions of the tanks are as follows:

   a. Flash Mix: The flash mix tank is 0.91 m x 0.91 m x 1.41 m deep. It shall have means to connect to a 8” diameter inlet pipe on a wall, and a 8” diameter outlet pipe on the bottom.
   b. Flow splitter: The flow splitter of 0.91 m x 0.91 m x 0.91 m has three compartments. The center compartment receives the flow from flash mix unit and splits the flow evenly using two weirs to the lateral compartments.
   c. Flocculators: The flocculators consist of two chambers in-series (2-stage). Each chamber is 1.61 m x 1.61 m x 3.05 m deep. It shall have a means to connect to a 6” diameter inlet pipe on a wall, and a 6” diameter outlet on the opposite wall.
   d. Sedimentation: The sedimentation tank is 9.30 m x 3.21 m x 3.05 m deep. It has an 8” diameter flow distributer manifold at the inlet, and a perforated 6” diameter pipe outlet that connects to and outlet box.

4. Structural: The Contractor be responsible for the structural design of the tanks as well as for providing all accessories for the installation of the equipment. The structural design shall include dead loads such as hydrostatic pressure, equipment, piping, valving and appurtenances, live loads such as the operators, and portable operation equipment, and atmospheric and seismic loads. The structural design shall be signed and sealed by a professional engineer licensed in PR. Welding shall be in conformance of AWWA D103, AWS D1.6, ASME Section IX and the applicable health standards such as NSF/ANSI 61 for drinking water contact surfaces.

5. Access: The Contractor be responsible for providing permanent access stairs, ladders, walkways and protection railing to the tanks.

B. Appurtenances

1. Equipment
   a. Mixers are specified in Section 112190
   b. Flow meter is specified in Section 113250
   c. Tube settlers are specified in Section 112200

2. Piping and Valving: As indicated in the drawings

C. Painting: All external surfaces of the tanks, and the intake water distribution/waste collection system, underdrain system and face piping shall be factory-painted by the manufacturer in accordance with NSF 61.

2.04 CONTROL SYSTEM

A. General: The treatment system manufacturer shall furnish a control system designed and constructed to provide full, integrated, unattended automatic operation and manual operation of the plant system.

B. Control Panel: The plant manufacturer shall furnish a control panel in a skid-mounted NEMA 4 enclosure of stainless-steel construction with a baked-enamel finish. The panel shall contain all equipment necessary for manual and automatic control of the filter system. The control panel shall be equipped with a selector switch with the label AUTOMATIC, MANUAL, OUT OF SERVICE, and BACKWASH positions. The filter shall also be provided with labeled IN SERVICE (green), OUT OF SERVICE (red), and BACKWASH (amber) indicator lights mounted on the control panel. A red alarm indicator light labeled HIGH HEAD LOSS - FILTER SYSTEM shall also be mounted on the panel. The alarm shall be equipped with a manual reset pushbutton.

The panel shall be equipped with all contacts, terminal strips, etc. required for remote system control, monitoring, and alarm annunciation through the OWNER's existing telemetry system. The panel shall be prewired and fully tested at the factory, requiring only control wiring terminations at the Project site. All switches and lights shall be provided with permanent engraved phenolic labels.

PART THREE - EXECUTION

3.01. INSPECTION

Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02. INSTALLATION

The groundwater filtration system shall be installed as shown on the Drawings and in accordance with manufacturer's recommendations and Section 150100 of these Specifications.

3.03. ELECTRICAL CONNECTIONS

All external wiring, conduits and connections shall conform to provisions of these Specifications.

3.04. TECHNICAL DIRECTION

A. Services During Construction: The treatment system manufacturer shall furnish the supervisory service of a factory-trained service engineer, who is specifically trained in the type of equipment herein specified, shall be provided for a period of not less than two cumulative 8-hour man days (not including travel time) during construction. He shall assist the CONTRACTOR with technical advice on the installation of the major components of the system to include:

1. Proper setting of interior piping.
2. Proper setting of exterior piping.
3. Proper power and control systems wiring connections.

B. Services During System Startup: Upon completion of the installation, the services of the above service engineer shall be provided for a period of not less than two 8-hour man days (not including travel time) to check the completed installation, make any required adjustments, complete a trial performance run, and place the system in satisfactory operation.

C. Instruction of Owner's Personnel: In addition to the above, the manufacturer shall provide the services of the above Service Engineer for a period of not less than one 8-hour man day (not including travel time) for instructing the OWNER's personnel in the operation and maintenance of the system.

D. Scheduling: Scheduling of all technical assistance periods shall be the sole responsibility of the CONTRACTOR. Instruction of the OWNER's personnel shall be scheduled at the direction of the OWNER.

E. No part of the treatment system shall be energized prior to receipt by the ENGINEER of a certified statement of approval of the installation from the CONTRACTOR containing the filtration system manufacturer's authorization to energize the system.

END OF SECTION

SECTION 112200
TUBE SETTLERS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: Furnish all labor, materials, tools and equipment necessary to furnish and install tube settlers in one (1) sedimentation tank, complete with supports, sludge mobility nozzles and appurtenances as shown on the Drawings and specified herein.

B. Related work specified elsewhere:

1. Mechanical General Provisions – 150100
2. Process Valves - Section 150900
3. Level Transmitters - 113240
4. Electrical - Division 16

1.02 QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section and as listed in Section 010850.

B. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

1. The tube settler manufacturer shall be certified for design and manufacture of tube settlers for water treatment.
2. The manufacturer shall be capable of producing tube settlers certified to NSF.
3. The manufacturer shall own and operate its own U.S. based factory producing vertical mixers.

C. Testing Standards: All tube settlers shall conform to ANSI/AWWAE101-88 and to the most current edition of Hydraulic Institute Standards.

D. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340 of these Specifications.

B. Fabrication and Assembly drawings: the contractor shall submit complete fabrication and assembly drawings together with detailed specifications covering materials, parts, devices, and accessories. The data and specifications for each pumping unit shall include, but not be limited to the following:

Name of Manufacturer
Type and Model
Type of Finish
Total Weight
Complete performance information, efficiency.

C. Shop drawings: As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Complete bill of materials for all items proposed to be furnished and installed under this Section.
2. Complete shop drawings of all items to be furnished.
3. Manufacturer's specifications, performance information and other data required to demonstrate compliance with specified requirements.
4. Manufacturer's recommended methods of installation.

The manufacturer's recommended methods of installation, when approved by the ENGINEER, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

D. Operation and maintenance manuals: The CONTRACTOR shall furnish complete operation and maintenance manuals for all applicable equipment.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in materials and workmanship for a minimum of one (1) year following acceptance by the OWNER.

PART TWO - PRODUCTS

2.01 GENERAL

To ensure that the specified material conform to design conditions and for the purpose of standardization, all equipment furnished under this Section shall be supplied by Aqua Equipment Technologies (AET) Lamella Clarifiers, or approved equal.

2.02 TUBE SETTLERS

A. General: Tube settlers shall be suitable for use in potable water service and shall meet all applicable AWWA requirements. The tube settler shall be designed specifically for continuous operation as manufactured by Aqua Equipment Technologies (AET), Model LS50, or approved equal.

B. Requirements:

a) To be installed in a 3.21 m x 9.30 m x 3.05 m Stainless Steel tank

1. Number:	One (1)
2. Type:	Inclined hybrid equidistant chevron
3. Inclination Angle;	60 degrees
4. Material:	Blue Polypropilene plastic
5. Design capacity:	0.25 MGD
6. Main supports:	SS304
7. Secondary Beams:	FRP
8. Effluent pipes:	two (2) perforated PVC pipes
9. Effluent Collection Channels:	SS 304
10. Cleaning System	High pressure nozzle, distribution manifold, quick connect for water hose.

PART THREE - EXECUTION

3.01 INSPECTION

Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 SHIPPING

Tube settlers shall be shipped fully assembled or unassembled. If unassembled, the manufacturer shall be responsible for the assembly.

3.03 STORAGE, HANDLING, AND INSTALLATION

The tube settlers shall be unloaded, stored, and installed in agreement with the Manufacturer's operation and installation manuals. If storage is planned to be longer than six months or in harsh environment, long term storage practices should be followed per the Manufacturer's operation and installation manuals.

3.04 INSTALLATION

The tube settlers shall be installed as shown on the Drawings and in accordance with Section 150100 - MECHANICAL GENERAL PROVISIONS.

3.05 ELECTRICAL CONNECTIONS

All external wiring, conduits and connections shall conform to provisions of DIVISION 16 - ELECTRICAL.

3.06 TECHNICAL DIRECTION

The tube settler manufacturer shall provide the services of a trained, qualified technician for one (1) eight-hour day, one (1) trip for the purpose of assisting and inspecting the installation to ensure compliance with the shop drawings and the manufacturer's recommended installation practices. The technician shall be responsible for the check-out, initial start-up, certification, as well as the instruction of maintenance personnel.

3.07 TESTING

The tube settlers shall be tested as the manufacturer's plant before shipment. Submit certified copies of the non-witnessed performance to the ENGINEER. The tube settlers shall be tested in accordance with the Hydraulic Standards Institute.

3.08 START-UP FIELD SERVICES

The tube settlers' manufacturers shall include two days of start-up field services with the proposal for the purpose of supervising the start-up and instructions of proper maintenance and operations.

Service Provided By Factory Representative	Time on Site
Inspect and Approve Installation	½ Day
Supervise Initial Adjustment	½ Day
Supervise Field Run Test	½ Day
Instruct Owner in Proper Start-Up and O&M	½ Day

Additional time on site shall be billed at the rate deemed by the manufacturer.

END OF SECTION

SECTION 112210
FILTERS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: Furnish all labor, materials, parts, tools and equipment necessary to furnish and install SS 316 tanks, filter media, underdrain system, backwash troughs, and air scour piping, complete as shown on the Drawings and specified herein. The work includes two (2) 8'x7' rapid sand filters.

B. Related work specified elsewhere:

1. Mechanical General Provisions – 150100
2. Process Valves - Section 150900
3. Water Level Transducers – 113240
4. General Electric Work – Section 160500

1.02 QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section and as listed in Section 010850.

B. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

1. The filter material and equipment manufacturer shall be certified to the ISO 9001 standard for design and manufacture of vertical mixers for water treatment.
2. The manufacturer shall be capable of producing filter materials certified to NSF/ANSI 61 & 372.
3. The manufacturer shall own and operate its own U.S. based foundry producing filter materials.

C. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340 of these Specifications.

B. Fabrication and Assembly drawings: the contractor shall submit complete fabrication and assembly drawings together with detailed specifications covering materials, parts, devices, and accessories. The data and specifications for the filter unit shall include, but not be limited to the following:

Name of Manufacturer
Type and Model
Type of Finish
Total Weight

C. Shop drawings: As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Complete bill of materials for all items proposed to be furnished and installed under this Section.
2. Complete shop drawings of all items to be furnished.
3. Manufacturer's specifications, performance information and other data required to demonstrate compliance with specified requirements.
4. Manufacturer's recommended methods of installation.

The manufacturer's recommended methods of installation, when approved by the ENGINEER, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

D. Operation and maintenance manuals: The CONTRACTOR shall furnish complete operation and maintenance manuals for all applicable equipment.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in materials and workmanship for a minimum of one (1) year following acceptance by the OWNER.

PART TWO - PRODUCTS

2.01 GENERAL

To ensure that the specified equipment conforms to design conditions and for the purpose of standardization, all equipment furnished under this Section shall be supplied by the indicated manufacturer.

2.02 DESIGN CONDITIONS

A. The following are the filter design conditions:

Design filtration rate:	4 gpm/ft2
Design backwash flow rate:	15 gpm/ft2
Air scour pressure:	5-6 psig

Air scour air flow rate:	3.0 scfm/ft2
Sand media depth:	15 inches (0.40 meters) Minimum
Filter Coal media depth:	20 inches (0.50 meters)

2.03 FILTER TANKS

A. Tanks: The tanks shall be of welded construction of tank-quality 316 L stainless Steel. The tank(s) shall be rated for 15 psig working pressure. Structural angle SS legs welded to tank side shell shall be provided on tanks. A minimum freeboard of one (1) shall be provided

   a. Working pressure: to be 15 pounds per square inch gauge (psig), hydrostatically tested to 15 psig stamped and certified.

   b. Finish: Provide safety blue epoxy finish paint 6-8 mils DFT over exterior tank and valve surfaces.

   c. Dimensions: The filter tank is 7.32 m x 2.13 m x 2.85 m deep-two compartment tank. Each compartment shall have means to connect to a 6” diameter inlet pipe on a wall, an 8” diameter outlet/backwash pipe on the bottom, and an 8” diameter wash-water on its wall.

   d. Structural: The Contractor be responsible for the structural design of the tanks as well as for providing all accessories for the installation of the equipment. The structural design shall include dead loads such as hydrostatic pressure, equipment, piping, valving and appurtenances, live loads such as the operators, and portable operation equipment, and atmospheric and seismic loads. The structural design shall be signed and sealed by a professional engineer licensed in PR. Welding shall be in conformance of AWWA D103, AWS D1.6, ASME Section IX and the applicable health standards such as NSF/ANSI 61 for drinking water contact surfaces.

   e. Access: The Contractor be responsible for providing permanent access stairs, ladders, walkways and protection railing to the tanks.

B. Painting: All external surfaces of the tanks, and the intake water distribution/waste collection system, underdrain system and face piping shall be factory-painted by the manufacturer in accordance with NSF 61.

2.04 FILTER MEDIA

A. The filter media shall be dual constituted by a 15 inches depth sand layer and a 20 inches depth of anthracite, as shown on the drawings.

B. Sand:
    a. Effective size from 0.45 to 0.7 mm.,
    b. Uniformity coefficient from 1.3 to 1.7.

C. Anthracite:
    a. Carbon content 92% (based on ash/moisture-free analysis)
    b. Fracture Angular Apparent Specific Gravity > 1.60
    c. Bulk Density 50 - 52 lbs. per cubic foot
    d. Hardness (Mohs Scale) > 2.7
    e. Acid Solubility < 2.0%
    f. Solubility in Alkaline Waters < 2.0%
    g. Visibly free of clay, shale, and extraneous dirt.
    h. Effective size from 1 to 1.2 mm

2.05 UNDERDRAIN SYSTEM

A. The height of the fabricated underdrain system (laterals) shall be no more than 76 mm.
B. The underdrain system will be able to support the sand directly without clogging or losing sand from the bed.
C. The air and water shall be independently distributed to eliminate wave action inside the lateral during filter backwashing.
D. The filter underdrain system shall consist of filtrate collection laterals, and a backwash water distribution manifold system manufactured by AWI Phoenix Underdrain systems or approved equal.
E. The underdrain system shall be of 316L stainless steel.

2.06 WASHWATER TROUGH

A. Each filter shall have one (1) 5-feet filter troughs.
B. The troughs shall be of SS Leopold Fiberglass Wash-water troughs.

2.07 AIR SCOUR

A. The filter air scour system will be incorporated to the air scour system of the existing filters.
B. The air distribution piping shall consist of a 2.5” SS air supply pipe and manifold.
C. A battery of 1 ½” OD nylon reinforced PVC hoses connected to each underdrain lateral.

2.08 CONTROLS

A. The filter shall be operated automatically and synchronized with the other existing filters. Manual operation shall also be provided.
B. The automatic control shall provide for filtering, backwashing,

PART THREE - EXECUTION

3.01 INSPECTION

Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 SHIPPING

The filter parts including the underdrain system and appurtenances shall be shipped fully assembled or unassembled. If unassembled, the manufacturer shall be responsible for the assembly.

3.03 STORAGE, HANDLING, AND INSTALLATION

The filter parts shall be unloaded, stored, and installed in agreement with the Manufacturer's operation and installation manuals. If storage is planned to be longer than six months or in harsh environment, long term storage practices should be followed per the Manufacturer's manuals.

3.04 INSTALLATION

The filter parts shall be installed as shown on the Drawings and in accordance with Section 150100 - MECHANICAL GENERAL PROVISIONS.

3.05 ELECTRICAL CONNECTIONS

All external wiring, conduits and connections shall conform to provisions of DIVISION 16 - ELECTRICAL.

3.06 TECHNICAL DIRECTION

The filter parts manufacturer shall provide the services of a trained, qualified technician for one (1) eight-hour day, one (1) trip for the purpose of assisting and inspecting the installation to ensure compliance with the shop drawings and the manufacturer's recommended installation practices. The technician shall be responsible for the check-out, initial start-up, certification of the pump curves, as well as the instruction of maintenance personnel.

3.07 TESTING

The filter parts shall be tested as the manufacturer's plant before shipment. Submit certified copies of the non-witnessed performance to the ENGINEER. The parts shall be tested in accordance with the Hydraulic Standards Institute.

3.08 START-UP FIELD SERVICES

The filter parts manufacturer shall include two days of start-up field services with the proposal for the purpose of supervising the start-up and instructions of proper maintenance and operations.

Service Provided By Factory Representative	Time on Site
Inspect and Approve Installation	½ Day
Supervise Initial Adjustment	½ Day
Supervise Field Run Test	½ Day
Instruct Owner in Proper Start-Up and O&M	½ Day

Additional time on site shall be billed at the rate deemed by the manufacturer.

END OF SECTION

SECTION 112250
CURTAIN BAFFLES

PART ONE - GENERAL

1.01 DESCRIPTION

A. This section provides details to furnish curtain baffles to include basic design, materials, equipment, controls, and appurtenances for the baffle. Support can include installation, training and start-up for a complete and operable baffle system. All baffle system material under this section shall be provided by one manufacturer to exclude the construction of the required anchor points.

B. Related work specified elsewhere:

1. Mechanical General Provisions – 150100

1.02 REFERENCES

Standards referenced in this Section are listed below:

1 American Society of Testing and Materials (ASTM)
2 National Sanitation Foundation (NSF) if required

A. QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section and as listed in Section 010850.

B. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

C. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

B. SUBMITTALS

A. General: Provide submittal data, manuals, and drawings as specified in Section 013340 Shop Drawings, Product Data, and Samples.

B. Fabrication and Assembly drawings: the contractor shall submit complete fabrication and assembly drawings together with detailed specifications covering materials, parts, devices, and accessories. The data and specifications for each pumping unit shall include, but not be limited to the following:

Name of Manufacturer
Type and Model
Type of Finish
Total Weight
Complete performance information, efficiency.

C. Shop drawings: As a minimum, the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Complete bill of materials for all items proposed to be furnished and installed under this Section.
2. Complete shop drawings of all items to be furnished.
3. Manufacturer's specifications, performance information and other data required to demonstrate compliance with specified requirements.
4. Manufacturer's recommended methods of installation.

The manufacturer's recommended methods of installation, when approved by the ENGINEER, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the Work.

D. Operation and maintenance manuals: The CONTRACTOR shall furnish complete operation and maintenance manuals for all applicable equipment.

C. PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

D. WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in materials and workmanship for a minimum of one (1) year following acceptance by the OWNER.

PART TWO - PRODUCTS

2.01 GENERAL

A. To ensure that the specified material conform to design conditions and for the purpose of standardization, all equipment furnished under this Section shall be supplied by ABASCO LLC, or approved equal.

2.02 BAFFLES

A. General: Provide a curtain baffle system that consists of a fabric skirt, top tension cable, section end connectors and anchoring hardware. The baffle shall function as a flow diversion system by directing the water along a flow path that is generally in a serpentine layout to increase detention time.

B. Performance Requirements:

The curtains will be installed in an underground, 7.18 m x 7.79 m x 2.93 m, concrete Clear Well with two (2) interconnected compartments. Each compartment can be accessed only by a 30”x30” hatch.

Design Conditions	**Units**	**Baffle Application**
Type of Fluid		Chlorinated Water
Design Flow	MGD	0.5
Max. Baffle Depth	m.	2.93
Water Level Adjustments	m.	1.5 to 2.93
Number of Compartments		2
Number of Baffles		9
Baffles Lengths, m.		2.12 and 2.91
Intake Water Flow	GPM	347
Maximum and Minimum Water Temperature	Celsius	15 to 25
Corrosion Review for 304SS or 316SS	pH Range	7 to 8.5

2.03 BAFFLE CONNECTIONS

A. Each baffle section shall utilize 316 SS plate connectors at each end which can be secured to an anchor cable or to the opposing baffle section. The section connectors shall consist of 1/8" thick 316 stainless steel flat bar connectors and 3/8" 316 stainless steel bolts, nuts, & washers. The geomembrane fabric section ends shall have bolt rope (keder) clamped at each section end connector to support tension loads.

B. Multiple baffle section connectors shall be bolted together joining the two baffle sections between them. The connectors shall be secured with four (subject to float size) 3/8" diameter 1" long bolts thru pre-drilled holes in the baffle connector

2.04 END CONNECTIONS

A. Baffle section connections shall be provided where the baffle sections terminate at each end. The end connections shall consist of one 1/8" thick by 3" wide by 12" long (subject to float size) stainless-steel flat bar endplates, 3/8" diameter **1**″ long SS bolts, nuts and washers, double SS flat bar layer (brings thickness to 1/4") where shackle bolt hole located, and 1/2" stainless steel shackles.

B. The section end plates shall be applied on the outside of the terminating end of the floating baffle and secured with four (subject to float size) 3/8" diameter stainless steel bolts, nuts, and washers. Each SS shackles shall be fastened to the end plate through

separate pre-drilled holes. The shackles shall be used as connection points for the anchoring bridle assembly and as connection points for the longitudinal tension member

2.05 MISCELLANEOUS HARDWARE

A. All fastener hardware used in the manufacture of the floating baffle shall be 316 stainless steel.

2.06 BAFFLE MATERIAL

A. The baffle curtain material shall use an 8 oz/yd2 base fabric weight polyester reinforced synthetic material and coated with Ethylene Terpolymer PVC Alloy. The material supplied under these specifications shall be a first quality product designed and manufactured specifically for this application and demonstrated to be suitable and durable for this purpose. Baffle fabric shall have been available in the market for over 20 years to demonstrate the selected fabrics service life and UV protection.

B. Geomembrane material must be Coolguard HRL-36 (manufactured by Cooley Group) meeting the following specifications:

Property	**ASTM**	**HRL-36**
Thickness (Nominal)	D751	36 mil
Weigth	Oz/sq yd	30
Coating Type		EIA
Tensile Stregth, Grab (Warp/Fill)	D751A	625/600 lb
Tear Stregth, Tongue (Warp/Fill)	D5884	120/170 lb
Low Temperature. (F)	D2136	-40 F
Hydrostatic Resistance	D751(A)	800 psi
Puncture, Ball Tip	D751	1000 lb
Abrasion Resistance	D3884	550 min cycles
Low Temperature Blend	D2136	-40 F

PART THREE - EXECUTION

3.01 INSPECTION

A. Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.02 SHIPPING

A. The baffles shall be shipped fully assembled or unassembled. If unassembled, the manufacturer shall be responsible for the assembly.

3.03 DELIBERY STORAGE AND HANDLING

A. The baffle sections shall be packaged onto sturdy wooden pallets designed to be moved with a forklift or similar equipment. Each baffle section shall be properly secured on the wooden pallet and water-resistant film used to protect and prevent damage to the baffle section during shipment. The package shall be prominently and indelibly marked with the baffle curtain's section number, location and size.

B. The baffle should be stored off the ground using the shipment pallet and preferably long term storage in an enclosed shelter or cover. Store and maintain the baffle system in accordance with the manufacturer's recommendations.

3.04 INSTALLATION

A. The baffle shall be installed based upon the layout as shown on the engineer's submittal plans. The baffle shall be installed in accordance with the manufacturer's shop drawings, instructions, and recommendations. The baffle shall be installed in-water thus floated into position if lagoon has adequate fluid and would be anchored in accordance with the layout drawings. The floating lagoon baffle can also be assembled on the bottom of the lagoon which should be empty but does require more equipment and follow up once lagoon filled to complete the anchoring and verification process.

B. The baffle system installation can be handled with three options as follows:

   a. Provided by the baffle manufacturer with supplied items installed lump sum turn-key upon request.
   b. Installation contractor or owner can utilize the services of a certified, factory trained, and approved installer from the manufacturer to supervise the installation and provide final inspection.
   c. Local contractor can demonstrate ability to install the baffles and either have a final inspection by manufacturer or owner can waive the final inspection by the manufacturer's representative.

3.05 SERVICES BY MANUFACTURER

A. The service of a factory-trained representative can be provided by the manufacturer to supervise installation and instruct the owner's personnel in the operation and maintenance of the equipment. The representative shall provide a written report certifying that the installation has been checked in accordance with submittal documentation and that the baffle system is ready to be placed into service.

B. The representative can be furnished at later dates to correct or supervise future modifications; make correction of any malfunctions and to provide training on how to properly operate and maintain the equipment with new personnel.

C. The representative can also be secured through a service contract to perform an overall inspection in accordance with the original manufacturer's submittal documentation or provide guidance if future modifications required at the site based upon an agreed upon timeline.

END OF SECTION

SECTION 113240
WATER LEVEL TRANSDUCERS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: The CONTRACTOR shall furnish all tools, materials, equipment and instrumentation necessary to install, calibrate and test the water level indicating equipment specified herein.

B. Related work specified elsewhere:

1. Mechanical Equipment, General - Section 150100
2. General Electrical Work - Section 160500

1.02 QUALITY ASSURANCE

A. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the Engineer.

B. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 01300 of these Specifications.

B. Submittal Data: The following information shall be submitted to the ENGINEER for review and approval:

1. Dimensional drawings of all equipment to be supplied.
2. Manufacturer's recommended installation and calibration procedures.
3. Manufacturer's specifications and equipment cut sheets.
4. Electrical and instrumentation data.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

A. The manufacturer(s) of the specified equipment shall provide a written guarantee as specified in Section 017400 - WARRANTIES AND BONDS.

B. The specified equipment shall be warranted to be completely free from defects in materials and workmanship for at least one (1) year following project start-up.

PART TWO - PRODUCTS

2.01 GENERAL

A. Design is based upon use of water level measuring equipment furnished by the manufacturers specified herein, and the terminology used may include reference to a particular manufacturer's performance and product. Such reference shall be construed only as establishing the quality of materials and workmanship to be used under this Section and shall not, in any way, be construed as limiting competition.

B. All instruments shall be mounted in a manner which allows access for adjustment, calibration and maintenance. Remote transmitters shall be installed at a height of 48 to 60 inches above finished floor at the locations shown on the Drawings, unless otherwise indicated.

2.02 WATER STORAGE TANKS LEVEL TRANSDUCERS

Submersible level transducers shall be provided to sense the liquid levels in the Water Storage Tanks, at the location as shown on the Drawings and in accordance with the manufacturer's recommendations. The transducers shall be 4-20 mADC, 2-wire loop-powered type with output signal directly proportional to the measured level excursion. Calibration range shall be as shown on the Drawings, or specified by the ENGINEER. The transducers shall be NSF 61 certified for use in drinking water applications.

The transducers shall have wetted parts constructed of 316L stainless steel, be electrically isolated from the sensed media, and include lightning protection. The sensor shall be mounted using its integral signal cable.

The pressure transducers shall be Acculevel by KELLER America, or pre-approved equal.

PART THREE - EXECUTION

3.01 INSTALLATION

A. General: All equipment shall be installed in strict accordance with manufacturers' recommendations. Equipment shall be located so that it will be readily accessible for operation and maintenance. The CONTRACTOR shall examine the Contract Drawings and Shop Drawings for the various equipment in order to determine the best arrangement for the Work as a whole, and shall use personnel skilled in the applicable trade for the erection of the various materials and Interconnections.

B. Equipment Mounting and Support: Field instruments shall be mounted in the areas specified or otherwise noted. Instruments attached directly to concrete shall be spaced out from the

mounting surface not less than 2-inches by use of phenolic spacers or framing channel. Expansion shields or cast-in-place inserts shall be used for securing equipment or supports to concrete surfaces. Unless otherwise noted, field instruments shall be mounted between 48 and 60 inches above the floor or work platform.

3.02 ELECTRICAL WORK

A. Wiring: Signal wiring shall be carried in raceways or conduit provided in accordance with DIVISION 16 - ELECTRICAL. All circuits shall be run as twisted pairs or triads. Triads shall be used wherever three (3) wire circuits are required. Triads shall not be formed by using two (2) pairs. Terminal blocks shall be provided at all instrument cable junctions, and all circuits shall be identified at such junctions. Signal circuits shall, in general, be run without splices between instruments, terminal boxes or panels.

B. Shielding: Shields shall, in general, be bonded to the ground bus at the control panel and isolated at all other locations. Terminal blocks shall be provided for interconnecting shield drain wires at all junction boxes.

C. Power supplies: Transducers shall be loop-powered from the SCADA System supplied by others.

3.03 FIELD TESTING

A. Operation simulation: All conditions of operation shall be simulated to demonstrate the system operates properly.

B. Acceptance: The system will not be accepted by the OWNER until all equipment satisfies the acceptance test requirements, including a calibration and certification from the manufacturer.

C. Maintenance: Corrective maintenance shall be performed only by a factory trained service technician specifically trained for servicing the types of equipment furnished herein.

3.04 TECHNICAL DIRECTION

A. Installation Assistance: Provide the services of a qualified factory engineer to supervise the installation, to test and make any adjustments required, and to place the completed system in operation. A minimum of one half (1/2) day installation assistance shall be provided.

B. System Operation Training:

1. The CONTRACTOR shall have the instrumentation supplier provide a factory trained engineer to instruct the OWNER's operating personnel in the use, operation, care, and maintenance of the flow measurement equipment and instrumentation.
2. The training shall be conducted on-site and be presented in a manner to impart a thorough understanding of the maintenance of the systems and equipment provided. The training shall be given to the personnel designated by the OWNER who shall be responsible for operation of the system.
3. When the OWNER is ready to have his personnel trained, the CONTRACTOR will be so notified. The CONTRACTOR will then ensure that the manufacturer's representatives are available on-site to conduct the required training.

PART FOUR – SEQUENCE OF OPERATION

The submersible level transducers in the production wells shall output the water level in the clearwell, raw water pump station and holding tank directly to the control panel and the SCADA System to allow for remote monitoring and control of the production pumps.

END OF SECTION

SECTION 113250
MAGNETIC FLOW METER

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: The CONTRACTOR shall furnish all tools, materials, equipment and instrumentation necessary to install, calibrate and test the magnetic flow measuring and recording equipment specified herein.

B. Related work specified elsewhere:

2. Mechanical General Provisions - Section 150100
3. Process Piping - Section 150600
4. General Electrical Work - Section 160500

1.02 QUALITY ASSURANCE

A. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the ENGINEER.

B. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340 of these Specifications.

B. Submittal Data: The following information shall be submitted to the ENGINEER for review and approval:

1. Dimensional drawings of all equipment to be supplied.
2. Manufacturer's recommended installation and calibration procedures.
3. Manufacturer's specifications and equipment cut sheets.
4. Electrical and instrumentation data.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

A. The manufacturer(s) of the specified equipment shall provide a written guarantee as specified in Section 017400 - WARRANTIES AND BONDS.

B. The specified equipment shall be warranted to be completely free from defects in materials and workmanship for at least one (1) year following project start-up.

PART TWO - PRODUCTS

2.01 GENERAL

A. Design is based upon use of flow measurement equipment furnished by the manufacturers specified herein, and the terminology used may include reference to a particular manufacturer's performance and product. Such reference shall be construed only as establishing the quality of materials and workmanship to be used under this Section and shall not, in any way, be construed as limiting competition.

B. All flow meters, transmitters and recorders shall be mounted in a manner which allows access for adjustment, calibration and maintenance. Remote transmitters and chart recorders shall be installed at a height of 48 to 60 inches above finished floor at the locations shown on the Drawings, unless otherwise indicated.

2.02 MAGNETIC FLOW METER AND ACCESSORIES

A. The flow meter and integral accessories shall be manufactured by ABB. The flow meter and accessory package shall consist of the following items: Krohne Waterflux 3000 with grounding rings and Profibus digital output

B. Flow Meter and Accessories:

1. RAW WATER FILTERS
   8” 6”
2. NEMA 4X enclosures for flow meter, RS485 Profibus digital output and chart recorder
3. 150 # flanged connections for meter
4. 316 stainless steel electrodes
5. Teflon flow meter liner
6. 100' remote transmitter cable
7. Grounding Rings
8. One-year supply of charts and pens

C. Measurement:

1. Volumetric flow in totally filled flow conduits 1/2" to 12" in diameter.
2. Measurement in gallons.
3. Accuracy +/- 0.5%
4. Repeatability +/- 0.5%
5. Velocity Measurement Range: 0.72 to + 36 ft/sec
6. Zero Stability: +/- 0.05 ft/sec

D. Flow Range:

Range: Meter shall be from a minimum of 21.1 gpm to 1,056 gpm.

E. Outputs:

Output shall be 4 - 20 mA analog and selectable pulse frequency of 0 to 5,000 and 0 to 50 Hz. Output signal shall connect to Series 50XM1000N signal converter (located inside the control building) with the capability to transfer the signal for driving lights, alarms, chart recorders and totalization for remote operations. Include one year's worth of spare pens and charts. Output protocol shall be MODBUS and be compatible with the chart recorder.

PART THREE - EXECUTION

3.01 INSTALLATION

A. General: All equipment shall be installed in strict accordance with manufacturers' recommendations. Equipment shall be located so that it will be readily accessible for operation and maintenance. The CONTRACTOR shall examine the Contract Drawings and Shop Drawings for the various equipment in order to determine the best arrangement for the Work as a whole and shall use personnel skilled in the applicable trade for the erection of the various materials and Interconnections.

B. Equipment Mounting and Support: Field instruments shall be mounted in the areas specified or otherwise noted. Instruments attached directly to concrete shall be spaced out from the mounting surface not less than 2-inches by use of phenolic spacers or framing channel. Expansion shields or cast-in-place inserts shall be used for securing equipment or supports to concrete surfaces. Unless otherwise noted, field instruments shall be mounted between 48 and 60 inches above the floor or work platform.

3.02 ELECTRICAL WORK

A. Wiring: Signal wiring shall be carried in raceways or conduit provided in accordance with DIVISION 16 - ELECTRICAL. All circuits shall be run as twisted pairs or triads. Triads shall be used wherever three (3) wire circuits are required. Triads shall not be formed by using two (2) pairs. Terminal blocks shall be provided at all instrument cable junctions, and all circuits shall be identified at such junctions. Signal circuits shall, in general, be run without splices between instruments, terminal boxes or panels.

B. Shielding: Shields shall, in general, be bonded to the ground bus at the control panel and isolated at all other locations. Terminal blocks shall be provided for interconnecting shield drain wires at all junction boxes.

C. Power supplies: Alternating current power supply connections for panel mounted equipment shall be by cord and plug. Field mounted units shall be wired in solid and provided with a power disconnect switch either internally or adjacent to the unit. All units shall be protected by individual draw-out fuses.

3.03 FIELD TESTING

A. Operation simulation: All conditions of operation shall be simulated to demonstrate the system operates properly.

B. Acceptance: The system will not be accepted by the OWNER until all equipment satisfies the acceptance test requirements, including a calibration and certification of the flow meter from the manufacturer.

C. Maintenance: Corrective maintenance shall be performed only by a factory trained service technician specifically trained for servicing the types of equipment furnished under this Contract.

3.04 TECHNICAL DIRECTION

A. Installation assistance: Provide the services of a qualified factory ENGINEER to supervise the installation, to test and make any adjustments required, and to place the completed system in operation. A minimum of one (1) day installation assistance shall be provided.

B. System operation training:

1. The CONTRACTOR shall have the instrumentation supplier provide a factory trained ENGINEER to instruct FCWSA personnel in the use, operation, care, and maintenance of the flow measurement equipment and instrumentation.

2. The training shall be conducted on-site and be presented in a manner to impart thorough understanding the maintenance of the systems and equipment provided.

3. The training shall be given to the personnel designated by FCWSA who shall be responsible for operation of the system.

4. When the FCWSA is ready to have personnel trained, the CONTRACTOR will be so notified by the ENGINEER. The CONTRACTOR will then ensure that the manufacturer's representatives are available on-site to conduct the required training.

END OF SECTION

SECTION 113290
FREE CHLORINE ANALYZER

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: This specification is for a Chlorine Analyzer for monitoring free residual chlorine in the finished water as it exits the waterworks and enters the distribution system. The Contractor shall furnish all tools, materials, equipment and instrumentation necessary to install, calibrate and test the free chlorine analyzing equipment specified herein.

B. Measurement Procedures: The method of measuring free or total chlorine will be with colorimetric chemistry. The chemistry will be USEPA accepted N,N-diethyl-p-phenylenediamine (DPD) method.

C. Performance Requirements:

1. Measurement range: 0 to 5 mg/L (ppm) free or total residual chlorine.
2. Accuracy: ± 5 percent of reading or ± 0.03 mg/L (ppm), whichever is greater.
3. Precision: 3% of reading or 0.01 mg/L (ppm), whichever is greater.
4. Minimum detection limit: 0.03 mg/L (ppm)
5. Resolution: 0.01 mg/L (ppm)
6. Repeatability: 0.05 mg/L (ppm)
7. Cycle time: 2.5 minutes

D. Certifications:

1. CE approved
2. ETL listed to UL 1262
3. ETL certified to CSA 22.2 No. 142

E. Environmental Requirements:

1. Sample flow rate: 200 to 500 mL/minute
2. Sample pressure: 1 to 5 psig
   a. The supplied conditioning kit allows for up to 120 psig.
3. Sample temperature: 5 to 40 degrees C
4. Operating temperature: 0 to 40 degrees C
5. Operating humidity: 90 percent at 40 degrees C maximum

F. Related work specified elsewhere:

1. Mechanical General Provisions - Section 150100
2. General Electric Work – Section 160500

1.02 QUALITY ASSURANCE

A. Qualifications of manufacturers: Products used in this Work shall be produced by manufacturers regularly engaged in the manufacture of similar items and with a history of quality production acceptable to the Engineer.

B. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340 of these Specifications.

B. Submittal Data: The following information shall be submitted to the Engineer for review and approval:

1. Dimensional drawings of all equipment to be supplied.
2. Manufacturer's recommended installation and calibration procedures.
3. Manufacturer's specifications and equipment cut sheets.
4. Electrical and instrumentation data.

C. Operating and Maintenance Instructions: Contractor shall submit manufacturers operating and maintenance instructions.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.

1.05 WARRANTY

A. The manufacturer(s) of the specified equipment shall provide a written guarantee as specified in Section 017400 - WARRANTIES AND BONDS.

B. The specified equipment shall be warranted to be completely free from defects in materials and workmanship for at least one (1) year following project start-up.

PART TWO - PRODUCTS

2.01 GENERAL

A. Design is based upon use of chlorine analyzing equipment furnished by the manufacturers specified herein, and the terminology used may include reference to a particular manufacturer's performance and product. Such reference shall be construed only as

establishing the quality of materials and workmanship to be used under this Section and shall not, in any way, be construed as limiting competition.

B. All instruments shall be mounted in a manner which allows access for adjustment, calibration and maintenance. Remote transmitters shall be installed at a height of 48 to 60 inches above finished floor at the locations shown on the Drawings, unless otherwise indicated.

2.02 CHLORINE ANALYZER

A. Manufacturer: Hach Company, Loveland, CO, Model CL17 Chlorine Analyzer, Free Residual, PN 5440001.

B. Manufactured Unit:

1. The CL17 Chlorine Analyzer consists of a sample valve, flow cell, and buffer and indicator solutions.
2. The CL17 is housed in a NEMA 12 enclosure, IP62-rated with the gasketed door latched.

C. Equipment:

1. The CL17 operates using 115 or 230 volt selectable AC power.
2. Between analysis points, the CL17 performs a self-test auto-blanking to eliminate potential drift.
3. The CL17 operates unattended 30 days between chemical reagent changes and sample cell cleaning.
4. The CL17 has two feed control operation modes to operate chemical feed pumps.
   a. On/off control where the concentration alarm outputs turn the pump on or off when chlorine levels fall below or exceed acceptable levels.
   b. Proportional control where the 4-20 milliamp output current is scaled to pace the feed pump proportional to the output.
5. Output
   a. Standard optically isolated analog output, selectable as 0 to 20 milliamp or 4 to 20 milliamp, field programmable over any portion of the analyzer range.
   b. Standard two internal alarms, each are SPDT relays with contacts rated for 5 amp resistive load at 230 volt AC power.
6. Alarms include:
   a. Concentration set point
   b. Analyzer system warning
   c. Analyzer system shut down

D. Components:

1. Standard equipment:
   a. Analyzer
   b. One-month supply reagents
   c. Spare pump tubing
   d. Wall mount kit
   e. Sample conditioning kit
   f. Manual

2. Dimensions
    a. 13.5 inches wide (343 mm)
    b. 17.9 inches high (455 mm)
    c. 7 inches deep (178 mm)
3. Weight: 25 pounds (11.3 kg)
4. The CL17 includes a standard sample conditioning element consisting of a pressure regulator, strainer, and shut-off valve.
5. Connectors:
    a. Sample inlet quick-connect 0.25-inch O.D. polyethylene tubing
    b. Sample drain 0.50-inch I.D. flexible tubing
    c. Overflow drain 0.50-inch I.D. flexible tubing
    d. Air purge quick-connect 0.25-inch O.D. polyethylene tubing (optional)

E. Accessories:

1. Power cord (PN 5448800)
2. Maintenance kit with pre-assembled tubing (PN 5444301)
3. 1 year reagent supply (PN 2556900 qty 11)
4. Pocket Colorimeter II for free & total chlorine, low and high range combination unit (PN 5870000)

PART THREE - EXECUTION

3.01 INSTALLATION

A. General: All equipment shall be installed in strict accordance with manufacturers' recommendations. Equipment shall be located so that it will be readily accessible for operation and maintenance. The CONTRACTOR shall examine the Contract Drawings and Shop Drawings for the various equipment items in order to determine the best arrangement for the Work as a whole, and shall use personnel skilled in the applicable trade for the erection of the various materials and Interconnections.

B. Equipment Mounting and Support: Field instruments shall be mounted in the areas specified or otherwise noted. Instruments attached directly to concrete shall be spaced out from the mounting surface not less than 2-inches by use of phenolic spacers or framing channel. Expansion shields or cast-in-place inserts shall be used for securing equipment or supports to concrete surfaces. Unless otherwise noted, field instruments shall be mounted between 48 and 60 inches above the floor or work platform.

1. Wall mount
2. Clearances
    a. Horizontal: 15.2 inches (386 mm) minimum, 27 inches (686 mm) ideal
    b. Vertical: 19 inches (483 mm)
    c. Depth: 20 inches (508 mm)
3. Power connection is made by three-wire barrier terminal block through 0.5-inch conduit hole in case using 12 to 18 AWG.

3.02 ELECTRICAL WORK

A. Wiring: Signal wiring shall be carried in raceways or conduit provided in accordance with DIVISION 16 - ELECTRICAL. All circuits shall be run as twisted pairs or triads. Triads shall

be used wherever three (3) wire circuits are required. Triads shall not be formed by using two (2) pairs. Terminal blocks shall be provided at all instrument cable junctions, and all circuits shall be identified at such junctions. Signal circuits shall, in general, be run without splices between instruments, terminal boxes or panels.

B. Shielding: Shields shall, in general, be bonded to the ground bus at the control panel and isolated at all other locations. Terminal blocks shall be provided for interconnecting shield drain wires at all junction boxes.

C. Power supplies: Alternating current power supply connections for panel mounted equipment shall be by cord and plug. Field mounted units shall be wired in solid and provided with a power disconnect switch either internally or adjacent to the unit. All units shall be protected by individual draw-out fuses.

3.03 FIELD TESTING

A. Operation simulation: All conditions of operation shall be simulated to demonstrate the system operates properly.

B. Acceptance: The system will not be accepted by the OWNER until all equipment satisfies the acceptance test requirements, including a calibration and certification from the manufacturer.

C. Maintenance: Corrective maintenance shall be performed only by a factory trained service technician specifically trained for servicing the types of equipment furnished herein.

3.04 TECHNICAL DIRECTION

A. Installation assistance: Provide the services of a qualified factory engineer to supervise the installation, to test and make any adjustments required, and to place the completed system in operation. A minimum of one half (1/2) day installation assistance shall be provided.

B. System operation training:

1. The CONTRACTOR shall have the instrumentation supplier provide a factory trained engineer to instruct the OWNER's operating personnel in the use, operation, care, and maintenance of the flow measurement equipment and instrumentation.

2. The training shall be conducted on-site and be presented in a manner to impart a thorough understanding of the maintenance of the systems and equipment provided. The training shall be given to the personnel designated by the OWNER who shall be responsible for operation of the system.

3. When the OWNER is ready to have his personnel trained, the CONTRACTOR will be so notified. The CONTRACTOR will then ensure that the manufacturer's representatives are available on-site to conduct the required training.

END OF SECTION

SECTION 113300
WATER TREATMENT CHEMICALS

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: Furnish chemicals for water treatment in accordance with this specification.

1.02 QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 013340 of these Specifications.

B. Shop drawings: As a minimum, eight (8) sets of chemical product data from the proposed Supplier shall be submitted to the ENGINEER for review and approval, including documentation of NSF 60 certification indicating compliance with this specification. Submit cut sheets and product data for the spill containment pallet and loading ramp.

C. Material Safety Data Sheets: Submit Material Safety Data Sheets for all chemicals provided.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all replacements necessary to the approval of the ENGINEER and at no additional cost to the PRASA.

PART TWO - PRODUCTS

2.01 SODIUM HYPOCHLORITE (NaOCl)

A. General: The CONTRACTOR shall furnish One (1) 275-gallon Caged IBC Totes of sodium hypochlorite (NaOCl) a.k.a. Liquichlor. Sodium hypochlorite is to be 12.5% solution, NSF 60 certified, and manufactured in accordance with ANSI / AWWA B300 (latest edition). Product is to be stored in a cool, dry place in accordance with the supplier's recommendations.

2.02 COAGULANT

A. General: The CONTRACTOR shall furnish One (1) 275-gallon Caged IBC Totes of Aluminum Chlorohydrate (AlnCl3-m[OH]m. Aluminum Chlorohydrate is to be 12.5% solution, NSF 60 certified, and manufactured in accordance with ANSI / AWWA B300 (latest edition). Product is to be stored in a cool, dry place in accordance with the supplier's recommendations.

2.03 POLYMER

B. General: The CONTRACTOR shall furnish One (1) 275-gallon container of cationic polycrylamide copolymer (PAM), a.k.a. Polymer. Cationic polycrylamide copolymer is to be

12.5% solution, NSF 60 certified, and manufactured in accordance with ANSI / AWWA B300 (latest edition). Product is to be stored in a cool, dry place in accordance with the supplier's recommendations.

2.04 SODIUM BISULFITE

C. General: The CONTRACTOR shall furnish four (4) 45-pound containers of sodium bisulfite (Na2SO3). Sodium bisulfite is to be 5-onze tablets, 125 pound/ft3 density, NSF 60 certified, and manufactured in accordance with ANSI / AWWA B300 (latest edition). Product is to be stored in a cool, dry place in accordance with the supplier's recommendations.

2.05 SPILL CONTAINMENT PALLET

A. General: The CONTRACTOR shall furnish three (3) 385-gallon sump capacity spill containment pallets as supplied by Interstate Products, Eagle 1620, or approved equal. Platforms shall be high density polyethylene with removable grating, have spill containment capacity of 385 gallons, and load capacity of 5,000 pounds. Pallet shall meet EPA Container Storage regulation 40 CFR 264.175. Loading Ramp to fit the spill containment pallet shall also be provided.

END OF SECTION

SECTION 113500
SHOWER EYEWASH STATION

PART ONE - GENERAL

1.01 DESCRIPTION

A. Work included: Furnish all labor, materials, tools and equipment necessary to install a combination shower/eyewash station in accordance with this specification.

B. Related work specified elsewhere:

1. Mechanical General Provisions - SECTION 150100
2. Process Piping - SECTION 150600
3. Process Valves - SECTION 150900
4. General Electrical Work - SECTION 160500

1.02 QUALITY ASSURANCE

A. Standards: Comply with all standards specified in this Section and as listed in Section 01085.

B. Qualifications of manufacturers: The shower manufacturer shall have a minimum of 500 units of a similar type, installed and operating for no less than five (5) years in the United States.

C. Qualifications of installers: Use experienced workmen to ensure proper installation of the products specified herein. In the acceptance or rejection of installed Work, no allowance shall be made for the lack of experience on the part of the workmen.

1.03 SUBMITTALS

A. General: All submittals shall be made in accordance with Section 01300 of these Specifications.

B. Shop drawings: As a minimum, eight (8) sets of the following shop drawing information shall be submitted to the ENGINEER for review and approval:

1. Installation guide.
2. Complete parts list.
3. Dimensional drawings.

C. Operation and maintenance manuals: The CONTRACTOR shall furnish six (6) complete operation and maintenance manuals for all applicable equipment as required by Section 013340.

1.04 PRODUCT HANDLING

A. Protection: Use all means necessary to protect materials of this Section before, after and during installation and to protect installed work and materials of other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the ENGINEER and at no additional cost to the OWNER.

1.05 WARRANTY

All equipment and materials supplied under this Section shall be warranted to be free from defects in materials and workmanship for a minimum of one (1) year following equipment start-up.

PART TWO - PRODUCTS

2.01 GENERAL

Design is based upon use of combination shower/eyewash as manufactured by Haws, and terminology used may include reference to the specific performance or product of this manufacturer. Such reference shall be construed only as establishing the quality of materials, operation and workmanship to be used under this Section and shall not, in any way, be construed as limiting competition.

2.02 COMBINATION SHOWER/EYEWASH

A. The CONTRACTOR shall furnish and install one (1) Model 8309 combination shower/eyewash unit as manufactured by Haws, or pre-approved equal.

B. Shower/Eyewash design: The unit shall have a 10" ABS plastic shower head and twin ABS plastic eye/face wash heads with integral flip top dust covers. A stainless steel pull rod operates a stay open shower valve that is equipped with a stainless steel stem. Activation for the eyewash is by a stainless steel push flag and foot treadle assembly. Pedestal mounting composed of a hot dipped galvanized steel pipe is to be included. Equipment is to meet ANSI Z358.1 - 1998 Standard for Emergency Eyewash and Shower Equipment.

PART THREE - EXECUTION

3.01 INSTALLATION

A. General: Equipment shall be installed in accordance with Section 150100, MECHANICAL EQUIPMENT-GENERAL, and in accordance with manufacturer's recommendations to provide a complete installation.

END OF SECTION

SECTION 118000
CHEMICAL FEED SYSTEM

PART ONE - GENERAL

1.01 SUMMARY

A. This section includes the requirements for the chemical feed system shall be a complete turnkey system inclusive of all necessary fluid handling and ancillary components to ensure the reliable metering of chemical into a treatment process which includes:

1. Sodium Hypochlorite Feed System
2. Coagulant Feed System
3. Polymer Feed System

B. This section includes these components of the chemical feed system:

1. Chemical Metering Pumps
2. Calibration Column
3. Pressure Relief and Degassing Valves and Mechanisms
4. Discharge Pressure Gauge with Diaphragm Seal
5. Pump Controllers

1.02 RELATED DOCUMENTS:

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

B. Related work specified elsewhere includes:

1. Section 099100 – Painting
2. Section 150600 – Process Piping
3. Section 150900 – Process Valves
4. General Electric Work – Section 160500

1.03 SUBMITTALS

A. CONTRACTOR shall submit the following information in accordance with Section 013340.

1. Product Data, including all electrical wiring diagram, installation, operating and maintenance, and programming information.
2. Shop drawings.
3. Characteristic performance curve showing flow rate as a function of RPM and pressure.
4. Chemical metering system arrangement and installation drawings.
5. Factory testing certifications.

B. CONTRACTOR shall submit Operations and Maintenance Data in accordance with Section 017800.

1.04 QUALITY ASSURANCE

A. All chemical feed systems shall be provided by a single supplier. Supplier shall be responsible for complete setup of all skid mounted equipment and shall test all equipment prior to shipment. Supplier shall provide a written report certifying this testing to the ENGINEER.

1.05 DELIVERY, STORAGE AND HANDLING

A. Shipping

1. Ship the Chemical Metering System completely assembled and ready for installation. Ship tubing separately for field installation and process line connection by CONTRACTOR.
2. Pack all additional spare parts in containers bearing labels clearly designating contents and pieces of equipment for which intended.
3. Deliver spare parts at the same time as pertaining equipment.

B. Receiving

1. CONTRACTOR to inspect and inventory items upon delivery to site.
2. CONTRACTOR to store and safeguard equipment, material, instructions, and spare parts in accordance with manufacturer's written instructions.

1.06 WARRANTY

A. The chemical metering pump manufacturer shall provide a one-year warranty on the metering pump mechanical drive and one year on the liquid end.

PART TWO - PRODUCTS

2.01 GENERAL

A. All systems shall be skid mounted to be installed on the wall above the chemical tank.

B. All programming shall be coordinated with the systems integrator for the project.

1. If there is not a system integrator for the project, the supplier shall coordinate all controls with the ENGINEER and OWNER.

C. All electrical work shall be in accordance with Division 16 of these specifications.

D. CONTRACTOR shall be responsible for all additional pipe, taps, valves, etc. to place the skid system in service that may not be shown on the drawings.

E. All feed systems that require potable water shall be protected with a backflow preventer.

F. All ferrous metal shall be shop primed in accordance with Section 09900.

2.02 LIQUID CHEMICAL FEED SYSTEM

A. Description

1. The chemical metering pump shall be a positive displacement, solenoid driven type with a mechanically actuated PTFE diaphragm. Output volume shall be adjustable while the pump is in operation from zero to maximum capacity. The metering pump(s) shall be designed to deliver 0.005-4.50 GPH.
2. The solid-state electronic pulsar and drive components shall be totally enclosed with no exposed moving parts. The electronics shall be fully contained within the corrosion resistant pump housing for maximum protection against chemical spillage. The chemical metering pump housing shall be of chemically resistant glass fiber reinforced thermoplastic, and all exposed fasteners shall be stainless steel.
3. The metered liquid shall enter the pump head at the bottom and exit at the top through double ball type check valves. Valves shall be free seating and guided to accurately control vertical and sideward movement of the ball. The pump head connections shall be threaded plastic to eliminate clamping bars and other metal parts subject to corrosion.
4. The metering pump shall be microprocessor controlled, and all adjustments shall be made by means of a user interface panel located opposite the pump head. The user interface panel will include a Start/Stop switch, Mode selector switch, pressure sensitive keypad, LCD display and “Power On” indication LED. The interface panel shall have a clear plastic cover to protect the stroke length knob and keypads from the elements. In local mode adjustments are made manually via a pressure sensitive keypad, or automatically from a 4-20 mA or pulse input signal in the remote mode. Other features of the controller include adjustable maximum and minimum stroke frequency and pulse contact multiplication and division control. The microprocessor controller shall be capable of stable operation over an ambient temperature range of 32 degrees F to 104 degrees F.
5. Chemical feed pumps shall have I/O required for flow pacing.
6. Capacity adjustment shall be accomplished by both stroke length and stroke frequency control. Stroke frequency control shall be manually or automatically adjustable. The metering pump shall be capable of operating at any supply voltage between 94 to 264 VAC, and pump capacity shall be unaffected by voltage fluctuations.
7. The pump shall include an integral 6-foot cord with molded 3-prong grounded plug and when applicable a signal cable with multi-pin connector.
8. The chemical metering pump manufacturer shall provide a one-year warranty on the pump. The pump shall be fully tested to meet rated flow and pressure by the manufacturer.

B. Chemical Pump Skid

1. The metering pumps shall be factory-mounted on a self-contained stand on floor mount skid. The skid shall be corrosion-resistant molded polyethylene with integral pedestals to elevate equipment above the chemical drum. All piping and accessories shall be adequately supported on the skid and not off the metering pumps, using a stainless steel or FRP uni-strut support system. The skid design shall have adequate clearance to permit access to the pumps and accessories for servicing. The metering pumps, piping and all ancillary components shall be

factory-mounted, piped and wired as a fully functioning chemical dosing system. Skids supplied with the specified pumps but assembled or integrated by third party facilities, agents, or reps are not acceptable.

2. Provide (4) skids with 2 metering pumps on each skid, one duty and one standby, except for the hypochlorite which in 2 skids will have three (3) duty pumps and one standby. Provide the metering pumps with an elevated suction pipe manifold including a strainer and appropriately sized calibration column. The discharge pipe manifold shall include a pressure relief valve, back pressure valve, and pressure gauge with diaphragm seal. Piping shall include CPVC vented ball-type isolation valves in the suction and discharge of each pump. The chemical metering pump skid will be completely factory assembled and tested prior to delivery to the jobsite. ALL CHEMICAL PIPING SHALL BE CPVC.

C. Accessories

1. Provide a properly sized relief valve for installation in the discharge of each pump. The pressure relief valve shall be of the spring-loaded diaphragm type constructed or materials compatible with the fluid pumped. The relief valve shall be field adjustable. Relief valve shall be Neptune Model RV-PVC or approved equal.
2. Provide a properly sized back pressure valve for installation in the discharge of each pump skid. The back pressure valve shall be of the spring-loaded diaphragm type constructed or materials compatible with the fluid pumped. The back pressure valve shall be field adjustable. Back Pressure valve shall be as supplied by the manufacturer.
3. Provide a properly sized calibration column made of clear PVC with a vent fitting at the top for installation in the pump suction line. Calibration column shall be direct reading in both ml/minute and GPH, and sized to allow for a minimum 30-second drawdown. Calibration column shall be as manufactured by the manufacturer.
4. A pulsation dampener shall be provided in each pump discharge line sized to provide (90%/95%) degree of dampening. The pulsation dampener shall be hydro-pneumatic vertical-type with two chambers separated by a single, elastomeric bladder. The pulsation dampener shall be supplied with a gas charge valve and 2-1/2” pressure gauge. Materials of construction shall be compatible with the chemical service.
5. Degassing mechanism shall be provided as designed by the manufacturer for NaOCl off-gassing.
6. Provide one (1) preventative maintenance kit for each metering pump. The kit shall contain those spare parts recommended by the manufacturer to provide one year of normal pump operation.
7. Provide a diaphragm isolated pressure gauge for each metering pump.

D. Pump Controllers

1. Each pump shall have the following signals available for the plant SCADA/PLC via hard wire connection: Pump running status, pump alarm status, Pump speed analog feedback, and remote mode selected status.
2. Each pump shall accept the following signals from the plant SCADA/PLC via hard wire connection: Dry contact pump enable, Analog 4-20mA speed command.

E. Application:

a. Sodium Hypochlorite

1. Quantity: Four (4) pumps in two skids

2. Chemical Service: 12.5% Sodium Hypochlorite
3. Capacity (GPH): 4.5 max.
4. Tubing I.D. (in): 1/4
5. Suction Head: See Plans

b. Coagulant

6. Quantity: Two (2) pumps, one (1) skid
7. Chemical Service: 12.5% Aluminum Chorohydraate
8. Capacity (GPH): 4.5 max.
9. Tubing I.D. (in): 1/4
10. Suction Head: See Plans

c. Polymer

11. Quantity: Two (2) pumps, one (1) skid
12. Chemical Service: 12.5% cationic polycrylamide copolymer
13. Capacity (GPH): 4.5 max.
14. Tubing I.D. (in): 1/4
15. Suction Head: See Plans

F. Manufacturer:

The chemical systems shall be as provided by the following:

1. LMI Chemical Metering Pumps
2. Neptune Model PZiG1000
3. Prominent Fluid Controls, Inc.
4. OR PREAPPROVED EQUIVALENT

PART THREE - EXECUTION

3.01 EXAMINATION

A. Verify that dimensions are correct and project conditions are suitable for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. All equipment shall be installed in accordance with approved submittals and manufacturer's recommendations.

B. All systems shall be tested prior to shipment to the project site. Manufacturer or supplier shall provide written results of this testing.

C. CONTRACTOR shall be responsible for all additional installation of pipe, valves, etc. for a complete project installation. CONTRACTOR shall also use appropriate material for installation based on type of chemical being pumped.

D. CONTRACTOR shall install the chemical metering pump system(s) in accordance with the drawings, specifications, and manufacturer's shop drawings.

E. CONTRACTOR shall connect suction, discharge, vent and drain connections as required.

F. CONTRACTOR shall supply shielded signal wiring for wiring of the required remote input and output to the connectors.

3.03 STARUP, TESTING AND TRAINING

A. Startup PRASA-approved chemicals shall be provided by the CONTRACTOR.

B. Manufacturer shall provide factory authorized representative for a minimum of 3 days total startup time for all chemical feeds systems together. Manufacturer shall also provide a written startup report that will be submitted by the CONTRACTOR to the ENGINEER.

C. Manufacturer shall provide a minimum of 1 full day of training the OWNER'S personnel on operations and maintenance for all chemical feed systems provided.

END OF SECTION

SECTION 13300
INSTRUMENTATION AND CONTROLS – GENERAL PROVISIONS

PART 1 GENERAL

1.01 DEFINITIONS

A. The Puerto Rico Aqueduct and Sewer Authority (PRASA) is a public corporation and instrumentality of the Government that owns and operates Puerto Rico's public water supply and wastewater systems.

B. Applications Engineering System Supplier (AESS): The entity that provides all programming, configuration, and related services for the control system equipment supplied by the PCSS.

C. Automation Engineer: An automation engineer is an individual who improves the efficiency of various manufacturing and computer systems by automating certain parts of the systems to do work on their own.

D. Contractor: Refer to General Conditions definitions.

E. Human Machine Interface (HMI): A software-based user interface with supervisory-level control and machine-level equipment.

F. Input/Output (I/O): Analog or digital field instrument signals to be received and interpreted by a PLC.

G. ISA CCST: Certified Control Systems Technician granted by the International Society of Automation.

H. Leadership in Energy and Environmental Design (LEED): A green building certification indicating that a building was designed and constructed to be environmentally responsible and use resources efficiently.

I. LCP: Local control Panel located near the equipment to be controlled. LCP functions can be something being done at:

1. VFD: Variable Frequency Speed Driver.

2. MCC: Motor Control Center.

3. Equipment Console: Panel to locally operate equipment with multiple control devices.

J. Maintenance of Plant Operations (MOPO): A construction plan that prevents or limits process disruptions during construction.

K. Operator Interface Terminal (OIT): A hardware component of the SCADA system used for device-level control and monitoring.

L. Operator Workstation (OWS): A hardware component of the SCADA system used for supervisory level control and monitoring.

M. Original Equipment Manufacturer (OEM): An original equipment manufacturer is a company whose goods are used as components in another company's products, then sells the finished item to users.

N. Owner's Representative: Refer to General Conditions definitions.

O. Programmable Logic Controller (PLC): A ruggedized programmable computer used for industrial automation.

P. Process Control System Supplier (PCSS): The entity responsible for providing all materials, equipment, labor, and services required to achieve a fully integrated and operational control system.

Q. Supervisor Control and Data Acquisition (SCADA): Hardware and software components used for high-level supervisory monitoring of industrial processes. Typical devices in the SCADA network include computers (OWS), PLCs, Ethernet switches, OITs, and HMIs.

R. Section 1334X "Sections for Instruments Hardware": The X in the number indicates all spec sections starting with the first four numbers (indicating a category described in the accompanying text) are included in the reference.

1.02 SCOPE OF WORK

A. Section includes the services of a Process Control System Supplier (PCSS) to provide all materials, equipment, labor, and services required to achieve a fully integrated and operational system as specified herein in "Related Requirements" under this Article, and in related drawings, except for those services and materials expressly noted.

B. Application Engineering Systems Provider (AESS) programming services may be performed by PCSS programming staff or, alternatively, PCSS may engage an approved qualified third party; both must comply with section 1.05.A.4 of this specification.

C. Effective coordination of PCSS work with AESS work during construction is required to successfully integrate control equipment. Both must reserve the time necessary to coordinate the project schedule as specified throughout Division 13.

D. Control strategies for PLC/SCADA programming of the system are defined with its specific requirement and/or in the individual loop process control descriptions. AESS shall implement in control sequence programing, configuration, and related services required to achieve a fully integrated and operational system.

E. Conduct an integrated review of PFDs, P&IDs, and functional requirements. The control architecture and control strategy shall be aligned and coherently integrated with these documents. Any changed shall be tracked, analyzed, and resolved in accordance with the project's change procedures.

F. Consider all labor, materials, and equipment required to complete the testing of all devices and systems furnished and installed.

G. Related Requirements:

1. Section No Title

13302	I&C – Testing
13303	I&C – Training
13305	I&C – Control Descriptions
13306	I&C – Application Engineering Services
13310	I&C – Computer System Hardware
13311	I&C – PLC Hardware and Software
13315	I&C – HMI System Software
13320	I&C – Control and Data Network Equipment
13321	I&C – Fiber Optic Cabling and Equipment
13330	I&C – Control Panel Equipment and Panel Equipment
13335	I&C – Control Panel UPS (Single-Phase)
13340	I&C – Instruments
13341	I&C – Flow Devices
13342	I&C – Level Devices
13343	I&C – Pressure Devices
13345. 40	I&C – Chlorine Residual Analyzer
13345. 60	I&C – Sludge Blanket Analyzer
13345. 80	I&C – Streaming Current Analyzer
13345. 90	I&C – ph-ORP-Analyzers
13345. 100	I&C – Turbidity Analyzers
13346	I&C – Miscellaneous Devices
13350	I&C - Vendor Package System Controls Integration

H. Items expressly excluded from the scope include the following:

1. Motor control panels are electromechanical in design. They do not include PLCs or software-based controls. They do not require programming. While these systems may be part of the PCSS scope of work, some requirements of this section may be excluded.

I. I&C Scope for Chemical Dosing Skids

1. Chemical dosing skids control signals and related communication capability must integrate into the control system as specified in control strategy and architecture.

2. Chemical dosing skid instrumentation must comply with requirements established in these specifications.

J. Auxiliary and accessory devices necessary for system operation or performance, such as transducers, relays, signal amplifiers, intrinsic safety barriers, signal isolators, software, and drivers to interface with existing equipment or equipment provided by others under other Sections of these specifications, shall be included whether they are shown on the Drawings or not.

K. All equipment and installations shall satisfy applicable Federal, and local codes.

L. Use the equipment, instruments, and loop numbering scheme shown on the Drawings and specifications to develop the submittals. Only deviate from or modify the numbering scheme with the Engineer's approval.

1.03 SUBMITTALS

A. General Requirements:

1. Shop drawings shall demonstrate that the equipment and services to be furnished comply with the provisions of these specifications and shall provide a complete record of the equipment as manufactured and delivered.

2. Submittals shall be complete, giving equipment specifications, details of connections, wiring, ranges, installation requirements, and specific dimensions. Submittals consisting of only general sales literature shall not be acceptable.

3. Substitutions on specified functions or equipment types shall not be accepted unless specifically noted.

4. Separate submittals shall be made for each submittal listed below.

B. Qualifications Submittal

1. Submit, within thirty (30) calendar days after the Notice to Proceed, detailed information on staff and organization to show compliance with the Quality Assurance requirements of this Section. The Qualifications submittal shall be submitted and approved before further submittals are accepted. Failure to meet the minimum requirements shall be grounds for rejection as a PCSS. The Qualifications Submittal shall, as a minimum, contain the following:
   a. Copies of ISA CCST Level 1 certificate for all field technicians or resumes demonstrating field experience or Combination of education, certification, and experience or PE license in Control Systems or PE with 5 or more years working with Control Systems.
   b. Copy of UL-508A certificate for panel fabrication facilities or confirmation of pursue UL label via UL Field evaluation Services]
   c. Project references for municipal water industry as defined in the Quality Assurance paragraphs.
   d. Documentation to demonstrate the ability to complete this project, including resumes of key staff, details on engineering, design, fabrication, and field service capacity, and location of staff responsible for responding to the site within four hours to resolve startup issues.

C. Project Plan, Deviation List, and Schedule Submittal

1. Submit a Project schedule plan within thirty (30) calendar days after the Notice to Proceed. The Project Plan shall be submitted and approved before further submittals shall be accepted. The Project Plan shall, at a minimum, contain the following:
   a. Overview of the proposed control system describing the understanding of the project work, a preliminary system architecture drawing, interfaces to other systems, schedule, startup, and coordination. A discussion of a startup, replacement of existing equipment with new, switchover (Maintaining Plant Operations during system transition), approach to testing and training, and other tasks as required by these specifications shall be included as applicable.
   b. Preliminary list of HMI software, PLC software, and PLC hardware, including version numbers, solely to determine compliance with the Contract Documents requirements

before beginning system programming development. Reviewing and approving software and hardware systems as part of this Project Plan stage shall not relieve the PCSS of meeting all the functional and performance requirements of the system as specified herein.

c. Substitution of the manufacturer or model of these systems after the submittal is approved is not allowed without Engineer approval.
d. Project personnel and organization include the PCSS project manager, project engineer, and lead technicians. Include the resumes of each of these individuals and specify in writing their commitment to this project.
e. Sample formats of the shop drawings to be submitted conforming with the requirements of the Specifications. At a minimum, include samples of panel fabrication drawings, loop, and I/O wiring diagrams.
f. PCSS acknowledges the requirement to use the PRASA Automation standards.

2. A Deviation List shall clearly define Exceptions to the Specifications or Drawings. The Deviation List shall consist of a paragraph-by-paragraph review of the Specifications indicating acceptance or any proposed deviations, the reason for the exception, the exact nature of the exception, and the proposed substitution so that the Engineer may make an evaluation. If no exceptions are taken to the specifications or drawings, the PCSS shall make a statement as such. If there is no statement by the PCSS, then it is acknowledged that no exceptions are taken.

3. The project schedule must cover all field installation, testing, and start-up milestones tasks. The project schedule shall illustrate I&C-related major project milestones, including the following:
   a. Schedule for all subsequent project submittals. Include the time required for Contractor submittal preparation, the Engineer's review time, and at least two complete review cycles.
   b. Proposed dates for all project coordination meetings.
   c. Hardware purchasing, fabrication, and assembly (following approval of related submittals).
   d. Software purchasing and configuration (following approval of related submittals).
   e. Shipment of instruments and control system equipment.
   f. Installation of instrument and control system equipment.
   g. Testing: Schedule for all testing.
   h. Schedule for system cutover, startup, and going online for each major system. At a minimum, include the schedule for each process controller and HMI server/workstation provided under this Contract.
   i. Schedule for all training, including submittal and approval of O&M manuals, factory training, and site training.

D. Input/Output (I/O) List Submittal

1. Submit, within sixty (60) days after the Notice to Proceed, a complete system Input/Output (I/O) address list for equipment connected to the control system under this Contract.

2. I/O list shall be based on the P&IDs, the Drawings, the design I/O list, and requirements in the Specifications.

3. The I/O list shall be submitted in a Microsoft Excel readable electronic file format and an 8-1/2 inch by 11-inch hard copy.

4. The I/O list shall reflect all active and spare I/O points. Add points to accommodate spare I/O as required in the specifications.

5. The I/O list shall be arranged such that each control panel has a dedicated worksheet. At a minimum, the I/O worksheet shall include the following information:
   a. TAG NUMBER(S): As indicated on the drawings, the identifier is assigned to a device that performs a function in the control system. As part of this information, the loop number of the tag shall be broken out to allow for sorting by the loop.
   b. DESCRIPTION: A description of the device's function (text that includes signal source, control function, etc.) Include the text "Spare Points" for all I/O module points that are not connected to equipment.
   c. PHYSICAL LOCATION: The Control Panel designation of where the I/O point is wired to.
   d. Physical POINT ADDRESS: Rack, Slot, and Point (or Channel) assignment for each I/O point.
   e. I/O TYPE: use DO - Discrete Output, DI - Discrete Input, AO - Analog Output, AI - Analog Input, PI - Pulse Input, or PO – Pulse Output.
   f. RANGE/STATE: The range in engineering units corresponding to an analog 4-20 mA signal, or the state at which the value of the discrete points is "1."
   g. ENGINEERING UNITS: The engineering units associated with the Analog I/O.
   h. ALARM LIMITS: Include alarm limits based on the control descriptions and the Drawings.
   i. Delay: Include time delay for alarm triggering
   j. Deadband: Include deadband for setpoint and alarm limits.
   k. P&ID – the P&ID or drawing where the I/O point appears. Mark as "NA" (Not Applicable) if the I/O point is derived from a specification requirement and is not on the P&IDs.

6. The I/O list shall be sorted in order by:
   a. Physical location
   b. I/O Type
   c. Loop Number
   d. Device Tag

7. Once the I/O list is approved, the PLC I/O addresses shall only be modified with approval by the Engineer.

8. For I/O layout requirements, see the PLC Hardware and Software Section 13311.

E. Communication Map Submittal List

1. Submit, within sixty (60) days after the Notice to Proceed, a complete list of data interchange or memory maps for all PLC and Devices connected to the Plant PLC as shown in the system Architecture.

2. Submit PLC to PLC communication memory map including as a minimum, the following:
   a. Tag Name

b. Description
c. Producer or consumer of data

3. Submit Ethernet or Fieldbus Device to PLC communication memory map, including, as a minimum, the following:
   a. Tag Name
   b. Description
   c. Producer or consumer of data

4. For communication with vendor packages, submit as coordination with vendors' system as required in Section 13350-Vendor Package System Controls.

F. Field Instruments Submittal

1. Field instrumentation submittal must be provided separately from other submittals.

2. Refer to the Instruments sections (Sections 1334X) for submittal requirements.

G. Hardware and Software Packages Submittal

1. Refer to the sections below for specific Hardware and Software Packages submittal requirements.
   a. 13310 I&C - Computer System Hardware
   b. 13311 I&C - PLC Hardware and Software
   c. 13315 I&C - HMI System Software
   d. 13320 I&C - Control and Data Network Equipment
   e. 13321 I&C - Fiber Optic Cabling and Equipment
   f. 13330 I&C - Control Panel Enclosures and Panel Equipment
   g. 13335 I&C – Control Panel UPS (Single phase)]

2. For each hardware and software package component specified in the sections above, submit a cover page that lists, at a minimum, the date, specification number, product name, manufacturer, model number, Location(s), and power required. The preferred format for the cover page is ISA-TR20.00.01-2007, an equivalent data sheet in other formats will be accepted if provided with all the required information.

H. Panel Layout Drawings and Wiring Diagrams Submittal

1. Control Panels submittal must be provided separately from other submittals.

2. Refer to Section 13330 Control Panel Enclosures and Panel Equipment for submittal requirements.

I. Testing Plan Submittals

1. Refer to the Section 13302 Testing for specific testing submittal requirements.

J. Training Plan Submittals

1. Refer to Section 13303 Training for specific training requirements.

K. Spares, expendables, and test equipment Lists Submittal

1. Submit a list of descriptive literature for spares, expendables, and test equipment.

2. Submit a list of descriptive literature for additional spares, expendables, and test equipment the manufacturer recommends.

3. Submit unit and total costs for the additional spare items specified or recommended for each subsystem.

L. Operations and Maintenance (O&M) Manuals

1. Refer to Section 017800 Operation and Maintenance Manual for specific O&M manual requirements.

2. The operations and maintenance manuals shall, at a minimum, contain the following information:
   a. Table of Contents
      1) A table of contents shall be provided for the entire manual, with the specific contents of each volume clearly listed. The complete Table of Contents shall appear in each volume.
   b. Instrument and Equipment Lists
      1) The following lists shall be developed in Microsoft Excel format and provided as a hard copy in O&M and electronically on a USB thumb drive.
      2) An instrument list for all devices supplied, including tag number, description, specification section and paragraph number, manufacturer, model number, serial number, range, span, location, manufacturer phone number, local supplier name, local supplier phone number, completion year replacement cost, and any other pertinent data.
      3) An equipment list for all non-instrument devices supplied listing description, specification section and paragraph number, manufacturer, model number, serial number, location, manufacturer phone number, local supplier name, local supplier phone number, completion year replacement cost, and any other pertinent data.
   c. Equipment Operations and Maintenance Information
      1) ISA-TR20.00.01-2007 data sheets shall be provided for all field instruments. For non-field instrumentation devices, provide a cover page for each device, piece of equipment, and Original Equipment Manufacturer (OEM) software that lists the date, specification number, product name, manufacturer, model number, location (s), and power required. The preferred format for the cover page is ISA-TR20.00.01-2007, a general data sheet; however, other formats will be acceptable, provided they contain all the required information.
      2) Vendor O&M documentation for each device, piece of equipment, or OEM software shall be either new documentation explicitly written for this project or modified standard vendor documentation. All standard vendor documentation furnished shall have all portions clearly indicated with arrows or circles. All portions that do not apply shall be neatly lined out or crossed out. Groups of pages that do not apply to the specific model supplied shall be removed.
      3) Provide the record documentation of the system audit as specified in the 13302 Testing section.
      4) Include the calibration forms developed as specified in the 13302 Testing section.
      5) Alarm Documentation: Submit alarm documentation as approved in section 13306-3.7.

d. As-Built Drawings
    1) Complete as-built drawings, including all drawings and diagrams specified in this section under the "Submittals" section. These drawings shall include all termination points on all equipment the system is connected to, including terminal points of equipment not supplied by the PCSS. Provide electronic files for all drawings produced. Provide drawings in AutoCAD ".dwg" format and in Adobe Acrobat format.
    2) As-built documentation shall include information from submittals, as described in this Specification, updated to reflect the as-built system. Any errors in or modifications to the system resulting from the Factory and Functional Acceptance Tests shall be incorporated in this documentation.

e. Original Licensed Software
    1) Submit original software licenses and keys for all software provided under this Contract. Submit original paper-based and electronic documentation for all software provided. Submit license agreement information, including serial numbers, license agreements, User Registration Numbers, and related information. All software provided under this Contract shall be licensed to the Owner at the time of purchase. Provide media in software sleeves within the O&M manual.

f. Electronic O&M Information
    1) In addition to the hard copy of O&M data, provide an electronic version of all equipment manuals and data sheets, along with any software back-up of configuration files, on DVD or USB thumb drive. Electronic documents shall be supplied in Adobe Acrobat format.
    2) Provide electronic files for all custom-developed manuals, including training manuals. The text shall be supplied in Microsoft Office and Adobe Acrobat formats.
    3) Provide electronic files for all drawings produced. Drawings shall be in AutoCAD ".dwg" format and Adobe Acrobat format. Drawings shall be provided using the AutoCAD eTransmit feature to bind external references, pen/line styles, fonts, and the drawing file into individual zip files.
    4) Each computer system hardware device shall be backed up onto DVD or USB thumb drive after substantial completion and shall be turned over to the owner.
    5) Provide of all training videos in digital format as specified in the 13303 Training section.

1.04 QUALITY ASSURANCE

A. The Process Control System Supplier (PCSS) shall be regularly engaged in designing and installing instrumentation systems and their associated subsystems as they are applied to the municipal water and wastewater industry. For this Specification Section, a "systems integrator" shall be interpreted to mean an organization that complies with all the following criteria:

1. Employs personnel on this project who have completed ISA or manufacturers training courses on general process instrumentation and configuration and implementation of the specific programmable controllers, computers, and software proposed for this project. Key personnel shall hold ISA CCST Level 1 certification or have at least ten (10) years of verifiable plant startup experience. Key personnel shall include, as a minimum, the lead field technician.

2. Has successfully completed work of similar or greater complexity on at least three previous projects within the last five (5) years. Successful completion shall be defined as a finished project completed on time, without any outstanding claims or litigation. All references shall be for projects where the PCSS's contract was of a similar size to this project.

3. Has been actively engaged in the type of work specified in this Specification Section for at least five (5) years.

4. Applications Engineering Services must be provided by an AESS or PCSS programming staff with a minimum of 5 years experience or relevant certification in Network components, PLCs and SCADA system software and applications as required for the project.

B. The PCSS shall maintain a permanent, fully staffed, and equipped service facility on the island of Puerto Rico with full-time employees capable of designing, fabricating, installing, calibrating, and testing the systems specified herein. At a minimum, the PCSS shall be capable of responding to on-site problems within twelve (12) hours of notice. Provide an on-site response within four (4) hours of notification, starting two months before the scheduled start up to two months after startup completion.

C. The PCSS shall provide evidence of having a panel shop specialized in industrial automation system control panel fabrication under having a minimum of five (5) years documented experience in such type of activities.

D. PCSS shall hold a valid UL-508A certification for their panel fabrication facility.

E. The PCSS's employees need not install the instrumentation system; however, the PCSS, as a minimum, shall be responsible for the technical supervision of the installation by providing on-site supervision to the installers of the various components.

1. Listed suppliers will not be required to submit a qualifications proposal. Contractors interested in listing an equal to the above-listed suppliers shall submit three copies of the PCSS's qualifications for review and approval by thirty (30) days after the Notice to Proceed.

2. Being listed in this specification does not relieve any potential PCSS from meeting the qualifications specified in this Section.]

1.05 REFERENCE STANDARDS

A. Publications are referred to in the text by basic designation only. That edition shall be used where a date is given for reference standards. Where no date is provided for reference standards, the latest edition in effect at the time of bid opening shall apply.

B. International Society of Automation (ISA)

1. ANSI/ISA 5.1-2022: Instrumentation Symbols and Identification

2. ANSI/ISA S5.2 Binary Logic Diagrams for Process Operations

3. ISA S5.3 Graphic Symbols for Distributed Control/Shared Display Instrumentation Logic and Computer Systems.

4. ISA S5.4, Instrument Loop Diagrams.

5. ISA S20, Specification Forms for Process Measurement and Control Instruments, Primary Elements, and Control Valves.

6. ISA RP60.3, Human Engineering for Control Centers

7. ISA RP60.6, Nameplates, Labels, and Tags for Control Centers

8. ISA/IEC-62443, Industrial Automation, and Control Systems Security

C. National Electrical Manufacturers Association (NEMA)

D. National Fire Protection Agency (NFPA)

1. NFPA 70, National Electrical Code (NEC).

2. NFPA 79, Industrial Control Equipment.

E. Underwriters Laboratories, Inc. (UL)

1. UL 508 - Industrial Control Equipment - for custom fabricated equipment

2. A nationally recognized testing laboratory approved by the Authority having jurisdiction may substitute for UL listing on commercial off-the-shelf products.

1.06 COORDINATION MEETINGS

A. Schedule the mandatory coordination meetings as described herein. The meetings shall be held at the Owner's designated location. They shall include attendance by the Owner, Owner representative, the Contractor, the PCSS's, Project Engineer, the AESS Project Engineer, and the Vendor Package System Controls provider, if applicable. Other Division specifications may require additional meetings. Prepare and distribute an agenda for this meeting at least one week before the meeting date. Meeting shall be scheduled at least one (1) week before the requested meeting date.

1. A project kickoff coordination meeting shall be held within two weeks of submitting the Project Plan. The purpose of the meeting shall be to discuss the PCSS's Project Plan, summarize the PCSS's understanding of the project; discuss any proposed substitutions or alternatives; schedule testing and delivery deadline dates; provide a forum to coordinate hardware and software-related issues; and request any additional information required from the Owner. The meeting will last up to one business day.

2. A submittal review coordination meeting shall be held after the Hardware, Panel Drawing, and Loop Drawing Submittal package has been reviewed by the Engineer and returned to the PCSS. This meeting shall review comments on the submittal package; refine scheduled deadline dates; coordinate equipment installation activities; and provide a forum for any further coordination between the PCSS, AESS, and Vendor Package System Controls provider; The meeting will last up to one (1) business day.

3. Regular on-site meetings when the PCSS staff is at the plant site.

4. All meetings must be documented with a meeting minute, items discussed, action to be taken, responsible, and date of the pending item and actions.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Shipping Precautions

1. After completion of shop assembly, factory test, and approval of all equipment, cabinets, panels, and consoles shall be packed in protective crates and enclosed in heavy-duty (5-mile) polyethylene envelopes or secured sheeting to protect from damage, dust, and moisture. Dehumidifiers shall be placed inside the polyethylene coverings. The equipment shall then be skid-mounted for final transport. Lifting rings shall be provided for moving without removing the protective cover. Boxed weights shall be shown on shipping tags and instructions for unloading, transporting, storing, and handling at the job site.

2. Manufacturer's special instructions for field handling, storage, and installation required for protection, shall be securely attached to the packaging for each piece of equipment before shipment. The instructions shall be stored in resealable plastic bags or other means of protection.

3. The HMI control and monitoring equipment shall be shipped to the site once the control room areas comply with specified ambient temperature and humidity. Have qualified personnel accept the equipment on delivery and supervise unloading within the control room areas.

4. If any apparatus has been damaged, such damage shall be repaired at no additional cost to the owner.

1.08 NOMENCLATURE AND IDENTIFICATION

A. Field Instrument Tags

1. See Section 13340 Instruments.

B. Panel Nameplates

1. See Section 13330 Control Panel Enclosures.

1.09 WARRANTY

A. Provide one (1) year warranty for fixing any broken components, including software defects, patches, and application bugs. Provide warranty as per Section 017400 Warranties and Bonds, and as specified in PRASA's general conditions.

1.10 MAINTENANCE CONTRACT

A. Provide the Owner with one (1) year of onsite preventive maintenance services related to the Instrumentation and Control system for the supply system.

B. A written proposal for a maintenance contract executed by the PCSS shall be provided to the Owner for on-site preventive maintenance services related to the Instrumentation and Control system. The cost of this maintenance contract shall not be included in the Contract Price.

C. This proposal shall be provided within thirty (30) days after final acceptance to enter a contract for annual maintenance after the first year of maintenance. Standard per diem rates for providing breakdown service shall be outlined in the contract. Such rates shall be fair and reasonable and reflect the lowest rates offered to the most favored customers. The fee quoted shall be firm for a minimum of ninety (90) days from the date of issue.

D. This maintenance contract shall include all labor, parts, and emergency calls providing an on-site response within twenty four (24) hours, to provide complete system maintenance for a period of one year after the date of Substantial Completion of the system for all equipment and software provided as part of the PCSS scope of work.

E. Provide software updates throughout the maintenance contract period. Provide latest official released version for all software provided under this Contract. Owner shall have the latest software releases at the end of the maintenance contract period.

F. The maintenance contract shall also include a minimum of four (4) preventive maintenance visits by qualified service personnel of the Supplier who is familiar with the type of equipment provided for this project. Each preventive maintenance visit shall include routine adjustment, calibration, cleaning, lubrication of system equipment and verification of correct operation.

G. Visits to the sites to correct deficiencies under warranty shall not be included in this preventive maintenance service contract.

H. Emergency maintenance procedures or plant visits may coincide with a preventive maintenance visit. However, they shall not replace the work intended to be performed during a preventive maintenance visit. The Supplier shall have full responsibility for the system hardware preventive and corrective maintenance.

I. During the one-year maintenance period, observation of maintenance operations by plant personnel and the instruction of said personnel in the details of the maintenance work being performed shall be provided.]

1.11 PROJECT/SITE REQUIREMENTS

A. Elevation: Equipment shall be designed to operate at the project ground elevation.

B. Temperature:

1. Outdoor areas' equipment shall operate between -30 to 50℃, between (-22 to 122˚F) degrees ambient minimum.

2. Equipment located in indoor locations shall operate between 10 to 35˚C (50 to 95˚F) degrees ambient minimum.

3. Storage temperatures shall range from 0 to 50˚C (32 to 122˚F) degrees ambient minimum.

4. Additional cooling or heating shall be furnished if required by the equipment specified herein.

C. Relative Humidity. Air-conditioned area equipment shall operate between 20 to 95 percent relative, non-condensing humidity. All other equipment shall operate between 5 to 100 percent relative condensing humidity.

D. Wind:

1. All Outdoor panels and equipment support must be designed to a wind speed maximum of 180 mph or what the Puerto Rico Building code established.

1.12 SPARE PARTS

A. All spare parts shall be wrapped in bubble wrap, sealed in a polyethylene bag complete with a dehumidifier, then packed in cartons and labeled with indelible markings. Complete ordering information, including manufacturer's contact information (address and phone number), part name, part number, part ordering information, and equipment name and number(s) for which the part is to be used shall be supplied with the required spare parts. The spare parts shall be delivered and stored in a location directed by the PRASA or Engineer.

B. Spare parts are specified in each section. An overview follows:

1. Devices within Control Panels - See the Control Panel Enclosures and Panel Equipment section (Sections 13330).

2. Computer Hardware and Software spare parts - See the Computer System Hardware section (Section 13310).

3. PLC spare parts - See the PLC section (Section 13311).

4. Network and Communications System - See the Control and Data Network Equipment section (Section 13320).

5. Instrument-related Spare Parts – see the Instrument section(s) (Sections 1334X).

1.13 TEST EQUIPMENT

A. Furnish all test equipment, instruction manuals, carrying/storage cases, unit battery chargers, special tools, calibration fixtures, cord extenders, patch cords, test leads, and miscellaneous items for checking field operation of all supplied equipment.

B. All test equipment shall be wrapped in bubble wrap, sealed in a polyethylene bag with a dehumidifier, then packed in cartons and labeled with indelible markings. Complete ordering information shall be supplied, including the manufacturer's part number and equipment name. The test equipment shall be delivered and stored in a location directed by the Engineer.

C. As a minimum, furnish the following test equipment:

1. One complete electronic process calibrator sets with rechargeable batteries, cases, spare fuses, test leads, and PC-based software. Provide model 830 as manufactured by Altek, or equal.

2. One (1) portable digital multimeter (DMM) with a rechargeable battery, test leads, and carrying case, Fluke 289 Industrial Digital Multimeter, or equal. Combining the features of the electronic process calibrator and the DMM, such as the Fluke 787 Process meter, is acceptable.

3. One calibration pump, Model A-396A, as manufactured by Dwyer Instruments, Inc., or equal.

4. One hand-held HART communicator, with case and all necessary accessories, Model 375 by Rosemount, or equal.]

1.14 TECHNOLOGY OBSOLESCENCE AND MITIGATION

A. Due to the rapidly evolving technology of the equipment specified herein, the requirements specified are to establish a baseline for the type of equipment required. Provide the current version of hardware and software of similar specification at the time of purchase equivalent in cost to that which is specified. The procedure for submitting and releasing the equipment is as follows:

1. PCSS to submit for approval the required data for the equipment as part of Submittal Packages.

2. Order equipment as late as possible, depending on the construction schedule to provide the latest equipment. Just before ordering, resubmit for approval the required data of the latest available hardware and software equivalent in cost to that specified.

PART 2 PRODUCTS

2.01 GENERAL

A. All instrumentation and electronic equipment shall be of the manufacturer's latest design, utilizing printed circuitry and epoxy or equal coating to prevent dust, moisture, and fungus contamination. The field-mounted equipment and system components shall be designed for installation in dusty, humid, and slightly corrosive service conditions.

B. All control panels provided under this contract must be compliant with UL-508A, ensuring adherence to stringent safety and performance standards for industrial control panel assemblies. The panels shall undergo thorough panel shop internal quality inspection, verifying proper component selection, all components must be UL-listed, wiring, and terminal sizing, as well as appropriate short circuit current ratings, etc. The contractor shall also maintain comprehensive documentation practices, including detailed schematics, bill of materials, and specific instructions for proper installation and servicing to be included as part of the panel’s submittal.

C. All instruments shall be provided with mounting hardware and floor stands, wall brackets, or instrument racks unless otherwise noted. Fasteners for securing control panels and enclosures to walls and floors shall be either hot-dipped galvanized after fabrication or stainless steel. Provide stainless steel fasteners only in corrosive areas rated NEMA 4X on the Drawings or as defined under Section 050900 Anchor Bolts, Expansion Anchors and Concrete Inserts. Provide minimum size anchor of 3/8-inch.

D. All equipment, cabinets, and devices furnished shall be heavy-duty type, designed for continuous industrial service. The system shall contain similar products of a single manufacturer and consist of current equipment models. All equipment provided shall be of modular construction and shall be capable of field expansion.

E. All electronic/digital equipment shall have radio frequency interference protection.

F. Except for field device network-connected devices, all electronic instrumentation shall utilize linear transmission signals of isolated 4 to 20 mA DC (milliampere direct current) capable of driving a load up to 750 ohms, unless specified otherwise. However, signals between instruments within the same panel or cabinet may be 1-24 VDC (volts direct current).

G. Outputs of equipment that are not of the standard signals as outlined shall have the output immediately raised and converted to compatible standard signals for remote transmission. No zero-based signals will be allowed.

H. All switches have double-pole, double-throw (DPDT) contacts rated at a minimum of 600 VA, unless noted otherwise.

I. Switches and/or signals indicating an alarm, failure or upset condition to be wired in a fail-safe manner. A fail-safe condition is when an open circuit generates an alarm state (i.e. contact opens).

J. Materials and equipment shall be UL-approved whenever such approved equipment and materials are available.

K. All furnished equipment shall be designed and constructed so that in the event of power interruption, the systems specified herein shall go through an orderly shutdown with no memory loss and resume regular operation without manual resetting when power is restored unless otherwise noted.

L. All switches shall have double-pole, double-throw contacts rated at a minimum of 600 VA unless noted otherwise.

M. Electrical 120 VAC

1. Equipment shall operate on a 60 Hertz alternating current power source at a nominal 120 volts, plus or minus 10 percent, except where expressly noted. Regulators and power supplies required for compliance with the above shall be provided between the power supply and interconnected instrument loop. Where equipment requires voltage regulation, constant voltage transformers shall be supplied.

N. Electrical 24 VDC

1. Power must be provided from DC/DC UPS, powered by redundant power supply per specification section 13330 I&C - Control Panel Enclosures and Panel Equipment and 13335 I&C – Control Panel UPS (Single-UPS)]

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions, with Installer present for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting the performance of the Work.

B. Examine Instrumentation and control devices before installation. Reject materials that are wet, moisture damaged, or mold damage.

C. Examine walls, floors, roofs, and process areas for suitable conditions where control panels, instrumentation and computers will be installed.

D. Prepare written report, endorsed by Installer, listing conditions detrimental to performance.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Instrumentation and accessory equipment shall be installed in accordance with manufacturer instructions. The indicated locations of equipment, transmitters, alarms, and similar devices indicated are approximate only. The exact locations of all devices shall be approved by the Engineer during construction. Obtain in the field all information relevant to placing process control equipment and in case of interference with other work, proceed as directed by the ENGINEER and furnish all labor and materials necessary to complete the work in an approved manner at no additional cost to the Owner.

B. Provide brackets and hangers required for mounting of equipment.

C. The shield on each process instrumentation cable shall be continuous from source to destination and be grounded at only one ground point for each shield.

D. Investigate each space in the building through which equipment must pass to reach its final location. If necessary, ship material in sections sized to permit passing through restricted areas in the building. Provide on-site service to oversee the installation, the placing and location of system components, and their connections to the process equipment panels, cabinets, and devices, subject to the Engineer's approval. Certify that field wiring associated with the equipment is installed in accordance with best industry practices. Coordinate work under this section with that of the electrical work specified under applicable Sections of Division 16.

E. Provide sunshades for equipment mounted outdoors in direct sunlight. Sunshades shall include standoffs to allow air circulation around the cabinet. Orient equipment outdoors to face to the North or as required to minimize the impact of glare and ultraviolet exposure on digital readouts.

3.03 IDENTIFICATION

A. Provide identification system for all PCSS provided hardware, instrumentation, and communication cabling.

3.04 FIELD QUALITY CONTROL

A. Refer to individual hardware and instrument specification sections.

3.05 TESTING

A. Refer to Section 13302 Testing.

3.06 TRAINING

A. Refer to Section 13303 Training.

3.07 PROCESS CONTROLLER INPUT/OUTPUT (I/O) SCHEDULE

A. Process controller I/O schedule itemizes the process controller Local and Remote I/O associated with the hardware provided under this contract. Provide additional I/O signals and hardware as required to furnish a complete and functional system and submit that revised list as defined in the submittal section. Process controller I/O schedule is included in Appendix 13300-A.

B. If assigned in this I/O schedule, do not modify the PLC I/O addresses without approval by the Engineer.

3.08 STARTUP SERVICE

A. Refer to Section 13302 Testing.

B. Refer to Section 13303 Training.

C. Refer to PRASA Facilities Start-up section 016500

D. Refer to individual hardware and instrument specification sections.

E. Frequency of On-site coordination meetings with Engineer, Contractor, Vendors, AESS and Owner Representative must be established as required during active construction period.

3.09 DEMOSTRATION

A. Refer to individual hardware and instrument specification sections.

END OF SECTION

APPENDIX 13300-A

CONTROL SYSTEM INPUT/OUTPUT (I/O) SCHEDULE

This I/O Schedule is included for reference only. The determination of the exact number and type of I/O points shall be the responsibility of the PCSS based on the Drawings, the Specifications, Process Control Loop Descriptions Section 13305, auxiliary device requirements, and spare requirements.

DWG NUMBER	TYPE (1)	ASSOCIATED EQUIPMENT	DESCRIPTION	CONNECTED PLC

(1) DI/DO/AI/AO/ETHERNET/PROFIBUS

SECTION 13302
I&C – TESTING

PART 1 GENERAL

1.01 DEFINITIONS

A. Process Control System Supplier (PCSS): The entity responsible for providing all materials, equipment, labor, and services required to achieve a fully integrated and operational control system.

B. Applications Engineering System Supplier (AESS): The entity who provides all programming, configuration, and related services for the control system equipment provided by the PCSS.

C. Human Machine Interface (HMI): A software-based user interface with supervisory level control of machine level equipment.

D. Operator Interface Terminal (OIT): A hardware component of the HMI used for device level control and monitoring.

E. Programmable Logic Controller (PLC): A ruggedized programmable computer used for industrial automation.

F. Input/Output (I/O): Analog or digital field instrument signals to be received and interpreted by a PLC.

G. Uninterruptible Power Supply (UPS): A device capable of providing emergency battery power when the main power source fails.

H. Factory Testing-Unwitnessed Factory Test (UFT): A test where the PCSS check the system prior to the Engineer and/or PRASA attending the witness testing.

I. Factory Testing-Witnessed Factory Test (WFT): Test where is allow the Engineer and/or PRASA representatives to witness the functionality, performance, and stability of the entire hardware and software system as a complete integrated system.

J. Field Testing-Functional (FT): Test where is check that the process equipment, instrument installation, instrument calibration, instrument configuration, field wiring, control panels, and all other related system components are ready to monitor and control the processes.

K. Field Testing-Performance Test (PT): Test where is allow the Engineer and/or PRASA representatives to witness the actual functionality, performance, and stability of the system while connected to the process equipment.

L. Field Testing-Start-up Test (ST): Test where the system is started-up and running the treatment process in automatic control during the start-up test period without significant interruptions.

1.02 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required to complete the testing of all devices and systems furnished and installed as detailed on the Drawings, and as specified herein.

B. Refer to Section 13300 - Instrumentation and Controls-General Provisions for other general requirements.

1.03 RELATED WORK

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

B. Division 1 Section 016500 "Facility Start-up".

C. SUBMITTALS

D. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

E. Testing Submittals - Submit, in one submittal, the following testing related documents:

1. Status signoff forms
    a. Develop and submit project specific I/O Status, Interlocks, and Automatic Control Strategy signoff forms to be used during factory and field testing to organize and track each loop's inspection, adjustment, calibration, configuration, and testing status and sign off. Include sign-off forms for each testing phase showing all loops.
        1) Example forms are shown in the Appendices.
        2) Separate forms for factory and field testing can be used, or they can be combined at the discretion of the Process Control System Supplier (PCSS).
        3) Submit testing forms prior to start of testing.

2. Testing Procedures
    a. Submit detailed procedures proposed to be followed for each of the tests specified herein. The test procedures shall serve as the basis for the execution of the required tests to demonstrate that the system meets and functions as specified.
    b. The documents shall be structured in an orderly and easy to follow manner to facilitate an efficient and comprehensive test.
    c. The test procedures shall indicate all pre-testing setup requirements, all required test equipment, and simulation techniques to be used.
    d. The test procedures shall be structured in a cause and effect manner where the inputs are indicated, and the outputs are recorded.
    e. The test procedures shall include the demonstration and validation under normal operating conditions and under various failure scenarios as specified in the contract documents.
    f. Testing may not start until all Testing Submittals have been approved.

F. Installation Photo Log

1. Prior to the Functional Test, Contractor shall submit photos of each instrument, equipment and controller installation for Engineer and PRASA’s representation review. Photos shall included equipment tags, model information and shall be taken in a way the Engineer can confirm installation follows design requirements. Functional Test may not start until this submittal has been approved.

G. Test Documentation

1. Upon completion of each required test, document the test by submitting a copy of the signed off Testing Status forms. Testing shall not be considered complete until the signed-off forms have been submitted and approved by Engineer. Submittal of other test documentation, including "highlighted" wiring diagrams with field technician notes, are not acceptable substitutes for the formal test documentation.

2. Provide a Test Summary Report indicating that the Instrumentation and Controls requirements (PCSS & AESS) meet the intent of design.

1.04 COORDINATION MEETINGS

A. Preinstallation Conference: Refer to Section 13300 - Instrumentation and Controls-General Provisions.

B. Conduct a factory testing coordination meeting two weeks prior to factory acceptance testing. The purpose of this meeting is to discuss specifics of PCSS's proposed tests and to provide a forum for coordinating required AESS factory testing. Meeting will last up to one business day. Change in factory testing coordination meeting schedule must be approved upon all parties.

C. Conduct a field-testing coordination meeting two weeks prior to start of field acceptance testing. Purpose of this meeting is to discuss specifics of PCSS's proposed tests and to provide a forum for coordinating required AESS field-testing. Meeting will last up to one business day. Change in field testing coordination meeting schedule must be approved upon all parties.

1.05 REFERENCE STANDARDS

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.06 QUALITY ASSURANCE

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.08 NOMENCLATURE AND IDENTIFICATION

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.09 WARRANTY

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.10 MAINTENANCE CONTRACT

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.11 PROJECT/SITE REQUIREMENTS

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.12 SPARE PARTS

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.13 TEST EQUIPMENT

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

1.14 TECHNOLOGY OBSOLESCENCE AND MITIIGATION

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 TESTING – GENERAL

A. Refer to Section 13300 - Instrumentation and Controls-General Provisions.

B. The results of all testing shall be tracked on a project specific status sign-off form or similar document. The PCSS shall be responsible for maintaining the sheet. The Appendix of this section has an example template for this sheet.

C. The tests the PCSS is required to perform are as follows:

1. Factory Testing
   a. Unwitnessed Factory Test (UFT).

2. Field Testing
   a. Functional Test (FT).

3. Support testing:
   a. Performance Test (PT).
   b. Start-up Test (ST).

D. Wherever possible, perform tests using actual process variables, equipment, and data. Where it is not practical to test with real process variables, equipment and data, provide all special testing materials and equipment required for a suitable means of simulation.

E. The PCSS shall coordinate all required testing with the Contractor, all affected Subcontractors, the Engineer, and PRASA or PRASA's representative.

F. No equipment shall be shipped to jobsite until the Engineer and/or PRASA has received all Factory Testing results and approved the system as ready for shipment.

G. The Engineer reserves the right to test or re-test any functions.

H. Correction of Deficiencies

1. All deficiencies in workmanship and/or items not meeting specified testing requirements shall be corrected to meet specification requirements at no additional cost to PRASA.

2. Testing, as specified herein, shall be repeated after correction of deficiencies is made until the specified requirements are met. This work shall be performed at no additional cost to PRASA.

3.02 FACTORY TESTING - UNWITNESSED FACTORY TEST (UFT)

A. The purpose of the UFT is for the PCSS to check the system prior to the onsite installation. This type of testing should be part of any quality firm's internal QA/QC procedures.

B. Temporary isolated network connections will be required to confirm the network configuration. Temporary wiring of primary elements, final control elements, and field-mounted transmitters is not required.

C. The hardware to be tested shall include all control system devices shown on the System Architecture drawings and provided by the PCSS.

D. Tests to be performed shall include, but not be limited to, the following. Each of these tests shall be specifically addressed in the Test Procedure submittal.

1. All panels and enclosures being provided shall undergo a thorough inspection to verify the integrity of the cabinet enclosures, frame structures, paint work and finish, etc. Review the panel drawings to ensure they accurately reflect the panel layout and wiring.

2. Perform a system audit to verify all components have been staged for the test and have been documented properly with correct model numbers, serial numbers, etc. The following documentation of the audit shall be provided at the factory test and submitted as part of the Operation & Maintenance (O&M) Manual Documentation:
   a. For each workstation and server, list all software installed (including the operating system), with software revision number, software improvement modules or patches installed, license number and PRASA registration information, warranty period, vendor and local distributor names and contacts.
   b. For each microprocessor-based component connected to the control communication backbone in the system (Programmable Logic Controllers (PLCs), managed switches, protocol converters, communication cards on final field devices, etc.), list the firmware revision, vendor and local distributor information, and system warranty information, configuration parameters (e.g., communication settings, fail position settings, etc.).

3. Panel wire pull tests shall be performed to ensure all wiring has been connected with the appropriate torque to prevent wires from coming loose.

4. UPS shall be tested to verify the uninterruptible power supply (UPS) switch powers correctly while keeping all UPS powered loads online. Testing of the UPS to determine if they have been sized correctly to maintain the specified run time shall be performed during field testing.

5. A 100 percent Input/Output (I/O) point checkout shall be performed to verify proper operation of the input/output points from the panel terminations to the Human-Machine Interface (HMI) and Operator-Interface Terminal (OIT) nodes. At a minimum, the I/O checkout shall consist of four steps.

a. Discrete input signals shall be jumpered at the field terminal blocks in the control panels to verify proper status in the HMI and OIT nodes.
b. Analog input signals shall be connected to a signal generator at the field terminal blocks in the control panels to verify proper status in the HMI and OIT nodes and signals shall be verified at zero percent, 50 percent, and 100 percent of full scale.
c. Discrete output signals shall be tested by switching the equipment to manual control at the HMI and OIT nodes and turning the output on or other means to turn the output on. Then verify the output is on by connecting a digital multimeter to measure the continuity at the terminations, thus verifying the command from the PLC has properly executed the contact closure.
d. Analog output signals shall be tested by switching the equipment to manual control at the HMI and OIT nodes and turning the output on or using other means to turn the output on. Then verify the output by utilizing a digital multimeter to measure the current or voltage generated at the termination points.

6. All control strategies shall be verified using simulation or other means to verify the logic performs as expected. Verify faults and logical failure conditions for control strategies such as instrument failures, equipment failures, loss of communication between the HMI Server and the PLC, loss of peer-to-peer communication, out of range testing (over and under scale) for analog inputs, and all other strategies specified in the control strategy document.

7. For each hardware enclosure, inspection shall include, but not be limited to, cabinet enclosures, frame structure, paint work and finish, dimensions, and hardware operability (i.e., fans, door hinges, keylocks, etc.).

8. For each subpanel, inspection shall include, but not be limited to, I/O subsystem physical layout, power supply sizing and mounting, cable routing, wire runs across hinges properly installed, fans and blowers unobstructed and mounted to maximize air flow, power conditioning correctly installed, and overall layout and installation of components meets manufacturer's recommendations and standard industry accepted practices.

9. All other control panel circuitry.

10. The following systems tests shall be performed:
    a. Demonstrate the ability to share data between operator workstations and servers.
    b. Demonstrate the ability of each workstation to print reports on all designated report printers.
    c. Demonstrate the ability for each workstation to read and write designated files from servers and other workstations on the network.
    d. Demonstrate the operability of all back-up and storage and forward from local historial to centralize historian .
    e. Demonstrate communication failure and recovering self-healing ring testing.

E. Upon successful completion of the UFT, the PCSS shall submit a record copy of the test results as specified in Part 1.

3.03 FIELD TESTING – FUNCTIONAL TEST (FT)

A. The purpose of the FT is to check that the process equipment, instrument installation, instrument calibration, instrument configuration, field wiring, control panels, and all other

related system components are ready to monitor and control the processes. This test will determine if the equipment is ready for operation.

B. This test shall take place prior to Performance Test (PT) and startup. Prior to starting this test, relevant process equipment shall be installed and mechanically tested, instruments installed, control panels installed, and field wiring complete.

C. Required Documents for Test

1. Master copy of the PCSS developed field testing signoff forms.

2. Testing procedures.

3. Calibration forms.

4. PCSS to provide any safety requirements and any lockout tagout if it is tied to live equipment.

D. These inspections, calibrations, and tests do require Engineer and PRASA witnessing. The Engineer may review and spot-check the testing process periodically. Any deficiencies found shall be corrected by the PCSS prior to commencement of the Performance Test.

E. The PCSS shall maintain the Sign-off forms and the Calibration forms at the job site and make them available to the Engineer/PRASA at any time.

F. The following tests shall be performed as part of the FT:

1. Instrument calibration, configuration, and set-up.

2. Input/Output (I/O) Testing to the HMI and OITs.

3. Testing of control strategies.

G. Instrument calibration, configuration, and set-up

1. Calibrate, configure, and set-up all components and instruments to perform the specified functions.

2. Calibration form
   a. For any component or instrument requiring dip switch settings, calibration, or custom configuration, maintain a calibration form in the field documenting this information. These forms shall provide a summary of the actual settings used in the field to allow an instrument technician to replace the device entirely and configure it to function as it did before.
   b. Add this information to the Instrument data sheet and to a copy of manufacturer's standard "Configuration Sheet", or create a separate form.
      1) If a separate form is created, the form shall list the Project Name, Loop Number, ISA Tag Number, I/O Module Address, Manufacturer, Model Number/Serial Number, Output Range and Calibrated Value.
   c. Some examples of required information are:
      1) For Discrete Devices: Actual trip points and reset points.

2) For Instruments: Any configuration or calibration settings entered into instrument.
3) For Controllers: Mode settings (Proportional-Integral-Derivative, (PID)).
4) For I/O Modules: Dip switch settings, module configuration (if not documented in the native programming documentation).

d. Maintain a copy of these forms in the field during testing, and make them available for inspection at any time.
e. For any device that allows a software back-up of configuration files to a laptop, make the configuration files available to the Engineer/PRASA for inspection. Submit as part of the Final System Documentation as specified in Section 13300 - Instrumentation and Controls-General Provisions.

H. I/O Testing

1. The purpose of the I/O testing is to check that the process equipment, instrument installation, calibration, configuration, field wiring, and the control panels are set-up correctly to monitor and control the processes. This test is commonly referred to as a "loop test" or an I/O checkout.

2. PCSS in conjunction with the Contractor shall test signals under process conditions. The preferred test method will always be to execute the test wherever possible to the end elements. For example, the preferred test will prove valve open/close limit switches by operating the valve, not by installing a jumper on the limit switch contacts. However if the equipment or process is not available to test a signal over its entire calibrated range, the PCSS may test using a simulation methods and make a note on the sign-off form.

3. The following I/O tests shall be performed:
   a. Discrete Input – At the device or instrument, change signal condition from the inactive to active state. Observe results on all indicators within the loop such as the HMI screens, the OIT screens, pilot lights, horns, beacons etc.
   b. Analog Input – Test the analog signal over the entire engineering range at various intervals including 0, 50%, and 100% as well as on increasing and decreasing range. Observe results on all indicators within the loop such as the HMI screens, the OIT screens, recorders, digital indicators, etc.
   c. Discrete output signals shall be tested by switching the equipment to manual control at the HMI and OIT nodes and toggling the output on or using other means to turn the output on and off. Then verify the equipment responds accordingly.
   d. Analog output signals shall be tested by switching the equipment to manual control at the HMI and OIT nodes and varying the output on or using other means to turn ramp the signal up and down. Then verify the equipment responds accordingly.

I. Testing of Automatic Control Strategies

1. All automatic control strategies shall be verified using actual process equipment and instruments, or other means, to verify the logic performs as expected. Verify faults and logical failure scenarios for control strategies such as instrument failures, equipment failures, loss of communication between the HMI Server and the PLC, loss of peer-to-peer communication, out of range testing for analog inputs, loss of power, and all other strategies specified in the control strategy document (Section 13305- Instrumentation and Controls-Control Description).

2. All interlocks and alarms shall be verified using actual process equipment and instruments.

J. After coordinating with Operations, a "Black Start" of the plant shall be performed to confirm the plant operation recovers as specified in the contract documents. Black start means shutting off power to the plant and turning it back on. Separate tests shall be performed by recovering the plant while on generator (if a generator is specified) and while on utility power.

K. Punchlist items and resolutions noted during the tests shall be documented on the Punchlist/Resolution form. In the event of rejection of any part or function test procedure, the PCSS shall perform repairs, replacement, and/or retest within 10 days. Any retest of an item as a result of a discrepancy correction shall also retest all related Equipment/System areas.

L. For all panels with enclosures modified by this contract, internal control panel temperature shall be tested under full running conditions to ensure proper cooling/ventilation is being provided.

M. Upon successful completion of the FT, the PCSS shall submit a record copy of the test results as specified in Part 1.

3.04 FIELD TESTING - PERFORMANCE TEST (PT)

A. The PCSS must provide service for assistance during PT to support the Contractor as required in Section 016500 “Facility Start-Up.”

3.05 FIELD TESTING – START-UP TEST (ST)

A. The PCSS must provide service for assistance during ST to support the Contractor as required in Section 016500 “Facility Start-Up.”

3.06 CERTIFICATE OF INSTALLATION

A. Following successful completion of the ST test, the PCSS shall submit a Certification of Proper Installation for the system as required in the Division 1 Section 016500-Facility Start-up.

END OF SECTION

APPENDIX 13302-A: EXAMPLE INPUT/OUTPUT (I/O) STATUS SIGN OFF FORM

An example template for the I/O Status signoff form to be used for documenting testing results to PRASA is attached. The PCSS is required, prior to testing, to create a project specific I/O Status signoff form based on the attached template or approved equal.

APPENDIX 13302-B: EXAMPLE AUTOMATIC CONTROL STRATEGIES SIGN OFF FORM

An example template for the Automatic Control Strategies signoff form to be used for documenting testing results to PRASA is attached. The PCSS is required, prior to testing, to create a project specific Automatic Control Strategies signoff form based on the attached template or approved equal. The PCSS may obtain an electronic copy of the template from the Engineer or develop it on their own.

8-Sep-11

[Project Name] Appendix A - Input/Output (I/O) Status Sign-Off Form

All Sections below are required to be filled out by PCSS as part of Field Testing.
Instrument Alarm Setpoint - Setpoint for any alarms set by PCSS
Wiring Complete - Signal wired from field device to PLC
I/O Tested - Signal tested from field device to SCADA HMI

PLC	Signal Tag	Description	Range or Active State when closed	P&ID	Signal	Rack	Slot	Channel	Instrument Alarm Setpoint	Calibrate, config., and Wiring complete	Date	I/O Tested	Date	Notes
PLC-SC	LIT-4000-1	Secondary Clarifier No. 1 Sludge Level	0-10 ft	8	AI	2	1	0						
PLC-SC	LIT-4010-3	Secondary Clarifier No. 3 Sludge Level	0-10 ft	8	AI	2	1	1						
PLC-SC	SI-4100-1	RAS Pump No. 1 Speed Feedback	0-100%	14	AI	2	1	2						
PLC-SC	SI-4100-4	RAS Pump No. 4 Speed Feedback	0-100%	15	AI	2	1	3						
PLC-SC	FIT-4102-1	RAS Flow Pumps 1-3	0-1900 GPM	14	AI	2	1	4						
PLC-SC	SI-4110-1	WAS Pump No. 1 Speed Feedback	0-100%	14	AI	2	1	5						
PLC-SC	N/A	Spare Slot	N/A	N/A	Spare	2	5	N/A						
PLC-SC	SC-4100-1	RAS Pump No. 1 Speed Setpoint	0-100%	14	AO	2	7	0						
PLC-SC	SC-4100-2	RAS Pump No. 2 Speed Setpoint	0-100%	14	AO	2	7	1						
PLC-SC	SC-4100-3	RAS Pump No. 3 Speed Setpoint	0-100%	14	AO	2	7	2						
PLC-SC	SC-4110-1	WAS Pump No. 1 Speed Setpoint	0-100%	14	AO	2	7	3						
PLC-SC	Spare	Spare	N/A	N/A	AO	2	7	4						
PLC-SC	Spare	Spare	N/A	N/A	AO	2	7	5						
PLC-SC	TSH-4000-1	Secondary Clarifier No. 1 High Temp	Normal	8	DI	3	1	0						
PLC-SC	XA-4000-1	Secondary Clarifier No. 1 Motor Overload	Normal	8	DI	3	1	1						
PLC-SC	WAH-4000-1	Secondary Clarifier No. 1 High Torque	Normal	8	DI	3	1	2						
PLC-SC	WAHH-4000-1	Secondary Clarifier No. 1 High High Torque	Normal	8	DI	3	1	3						
PLC-SC	YRI-4000-1	Secondary Clarifier No. 1 On/Off	On	8	DI	3	1	4						
PLC-SC	YCI-4000-1	Secondary Clarifier No. 1 In Remote	In Remote	8	DI	3	1	5						
PLC-SC	YFI-4100-1	RAS Pump No. 1 VFD Fault	Normal	14	DI	3	1	6						
PLC-SC	FAL-4100-1	RAS Pump No. 1 Low Flow	Normal	14	DI	3	1	7	50 GPM	RJM	12/18/2011	JAS	12/22/2011	Example completed line
PLC-SC	Spare	Spare	Normal	14	DI	3	1	8						
PLC-SC	YRI-4100-1	RAS Pump No. 1 Running	Running	14	DI	3	1	9						
PLC-SC	YCI-4100-1	RAS Pump No. 1 In Remote	In Remote	14	DI	3	1	10						
PLC-SC	YFI-4110-1	WAS Pump No. 1 VFD Fault	Normal	14	DI	3	1	11						
PLC-SC	FAL-4110-1	WAS Pump No. 1 Low Flow	Normal	14	DI	3	1	12						
PLC-SC	Spare	Spare	Normal	14	DI	3	1	13						
PLC-SC	YRI-4110-1	WAS Pump No. 1 Running	Running	14	DI	3	1	14						
PLC-SC	YCI-4110-1	WAS Pump No. 1 In Remote	In Remote	14	DI	3	1	15						
PLC-SC	HSS-4000-2	Secondary Clarifier No. 2 Start Command	Start	8	DO	4	6	0						
PLC-SC	Spare	Spare	N/A	N/A	DO	4	6	1						
PLC-SC	HSS-4100-2	RAS Pump No. 2 Start Command	Start	14	DO	4	6	2						
PLC-SC	HSS-7000-2	Sludge Holding tank Tank Blower No. 2 Start Command	Start	17	DO	4	6	3						
PLC-SC	HSS-4100-5	RAS Pump No. 5 Start Command	Start	15	DO	4	6	4						
PLC-SC	Spare	Spare	N/A	N/A	DO	4	6	5						
PLC-SC	HSS-4105-1	Secondary Scum Pump No. 2 Start/Stop	Start	15	DO	4	6	6						
PLC-SC	HSS-4110-2	WAS Pump No. 2 Start/Stop Command	Start	15	DO	4	6	7						
PLC-SC	7160-FQI-1	Sludge Loadout LCP Pumping Indicator	Pumping	17	DO	4	6	8						
PLC-SC	Spare	Spare	N/A	N/A	DO	4	6	9						
PLC-SC	HSS-7115-2	Sludge Holding Tank Mixer No. 2 Start	Start	17	DO	4	6	10						
PLC-SC	Spare	Spare	N/A	N/A	DO	4	6	11						
PLC-SC	HSO-7117-2	Sludge Holding Tank Discharge Valve No. 2 Open CMD	Open	17	DO	4	6	12						
PLC-SC	HSC-7117-2	Sludge Holding Tank Discharge Valve No. 2 Close CMD	Close	17	DO	4	6	13						
PLC-SC	HSS-7120-2	TS Transfer Pump No. 2 Start Command	Start	17	DO	4	6	14						
PLC-SC	Spare	Spare	N/A	N/A	DO	4	6	15						

EXAMPLE ONLY

7-Oct-11	**[Project Name] Appendix B - Automatic Control Strategies Sign-Off Form**				
	All Sections below are required to be filled out by PCSS as part of Testing.				
	Auto. Control Strategies. - Loop operational in Automatic as defined in Control Stategies				
Control Strategies Loop #	**Control Strategy Description**	**P&ID**	**Auto. Control Strategy**	**Date**	Notes
LOOP 281 - 284	LOW FLOW PUMPS	8			
LOOP 290	LOW EQ CHANNEL FLOW NO.4	8			
LOOP 300	MICROFILTRATION AIR SUPPLY LOW PRESSURE	10			
LOOP 351, 352	SITE LIFT STATION PUMP NO.1 AND NO. 2	12			
LOOP 355	SITE LIFT STATION HIGH AND LOW LEVEL CONTROL	12			
LOOP 371, 372	SLUDGE HOLDING TANK NO.1 AND NO. 2 LEVEL	14			
LOOP 381, 382	SLUDGE TRANSFER PUMPS	14			
LOOP 385	SLUDGE TRANSFER PUMPS REMOTE START/STOP COMMAND	14			
LOOP 700	EFFLUENT PUMPING STATION LEVEL	14			
LOOP 701, 702, 703	EFFLUENT PUMP NO.1	14			
LOOP 840	POST AERATION CHANNEL AIR FLOW CONTROL	15			
LOOP 900	SLUDGE TRANSFER PUMPS DISCHARGE FLOW	8			
LOOP 971	CENTRIFUGE SLUDGE FEED PUMP NO.1	8			
LOOP 1001	CENTRIFUGE NO.1 SLUDGE FEED FLOW CONTROL	8			
LOOP 1411, 1412	SODIUM HYPOCHLORITE STORAGE TANKS LEVEL	8			
LOOP 1421, 1422	SODIUM HYPOCHLORITE PUMPS	8			
LOOP 1430	SODIUM HYPOCHLORITE STORAGE TANKS CONTAINMENT AREA HIGH LEVEL DETECTION	14			
LOOP 2051, 2052, 2053	DIESEL ENGINE GENERATOR STATUS	14			
LOOP 2055	TRANSFER SWITCH STATUS	14			
LOOP 2060	GENERATOR KILOWATTS MONITORING	14			
APPENDIX ONE	EQUIPMENT RESTART DURING A POWER LOSS WITH THE GENERATOR RUNNING	14			
APPENDIX TWO	EQUIPMENT RESTART WITH POWER RESTORED AFTER A POWER LOSS	14			
N/A	SELF-HEALING CAPABILITIES OF NETWORK	N/A			
N/A	REDUNDANT SCADA SERVER FAILOVER AND RECOVERY	N/A			

EXAMPLE

SECTION 13303
INSTRUMENTATION AND CONTROLS – TRAINING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish training as specified herein.

B. This section covers the training requirements for all devices and systems furnished and installed as detailed on the Drawings.

C. Refer to Section 13300 Instrumentation and Controls-General Provisions.

1.02 RELATED WORK

A. Refer to Section 13300.

1.03 SUBMITTALS

A. Refer to Section 13300 Instrumentation and Controls-General Provisions for general submittal requirements.

B. Preliminary Training Plan Submittal

1. Prior to the preparation of the Final Training Plans, submit outlines of each training course including course objectives and target audience, resumes of instructors, prerequisite requirements for each class, and samples of handouts for review.

C. Final Training Plan Submittal

1. Upon receipt of the Engineer's comments on the preliminary training plan, submit the specific proposed training plan. The training plan shall include:

   a. Definitions, objectives, and target audience of each course.
   b. Schedule of training courses including proposed dates, duration and locations of each class.
   c. Complete copy of all proposed handouts and training materials. Training information shall be bound and logically arranged with all materials reduced to a maximum size of 11 inch by 17 inch, then folded to 8.5 inch by 11 inch for inclusion into the binder.

D. Training material submittal.

1. Upon training services completion, submit in digital form with O&M documentation training material in format in concordance with the PRASA's “Departamento de Capacitacion y Entrenamiento”

2. Upon training completion submit attendance sheets including as a minimum, the following information

   a. Training title
   b. Training duration

c. Training Date and Location
d. Instructor Name
e. Signed attendance list.

3. Refer to General Conditions in relation on intellectual properties and use of the information provided for the project.

1.04 DEFINITIONS

A. Process Control System Supplier (PCSS): The entity responsible for providing all materials, equipment, labor, and services required to achieve a fully integrated and operational control system.

B. Applications Engineering System Supplier (AESS): The entity who provides all programming, configuration, and related services for the control system equipment provided by the PCSS.

C. Human Machine Interface (HMI): A software-based user interface with supervisory level control and of machine level equipment.

D. Operator Interface Terminal (OIT): A hardware component of the HMI used for device level control and monitoring.

E. Programmable Logic Controller (PLC): A ruggedized programmable computer used for industrial automation.

F. Input/Output (I/O): Analog or digital field instrument signals to be received and interpreted by a PLC.

G. Uninterruptible Power Supply (UPS): A device capable of providing emergency battery power when the main power source fails.

PART 2 PRODUCTS

2.01 N/A

PART 3 EXECUTION

3.01 GENERAL

A. The cost of the training programs shall be included in the Contract price. The training and instruction shall be directly related to the system being supplied. The training program shall represent a comprehensive program covering all aspects of the operation and maintenance of the system.

B. All training schedules shall be coordinated with and at the convenience of the PRASA. Shift training may be required to correspond to PRASA's working schedule.

C. All onsite instructors must be intimately familiar with the operation and control of the PRASA's facilities.

D. Provide detailed training manuals to supplement the training courses. The manuals shall include specific details of equipment supplied and operations specific to the project. The manuals shall

be provided in hardcopy for each student. Provide electronic copy of each training manual in PDF format for PRASA's future use.

E. The trainer shall make use of teaching aids, manuals, slide/video presentations, etc. After the training services, all training materials shall be delivered to PRASA. Provide of all training videos in digital format.

F. If PRASA requires, all training session shall be recorded. PRASA reserves the right to record all custom training sessions. All recording training shall become the sole property of PRASA.

G. All vendor package equipment specification is covered by the requirements stated in this document.

3.02 TRAINING SUMMARY

A. The following training courses listed in the summary table shall, as a minimum, be provided:

Description	Minimum Course Duration (hours)	Maximum Number of Trainees per Course	Number of Times Course to be Given	Intended Audience
Manufacturer's Training				
Human Machine Interface (HMI) Basic	32	2	1	PRASA Telemetry
Human Machine Interface (HMI) Advanced	32	2	1	PRASA Telemetry
Historian	16	2	1	PRASA Telemetry
Programmable Logic Controller (PLC) Basic	32	2	1	PRASA Telemetry
Programmable Logic Controller (PLC) Advanced	32	2	1	PRASA Telemetry
Onsite Training				
Control System Overview Seminar	2	12	1	Management
Operator Control System Training (Pre start-up)	8	12	1	Operations
Operator Control System Training (Post start-up)	8	12	1	Operations
Software Maintenance	2	2	1	PRASA Telemetry
System Reports and Historian Implementation	*2*	*2*	*1*	PRASA Telemetry
Installed Control System	2	2	1	PRASA Preventive Maintenance / PRASA Telemetry
PLC Hardware/Software	2	2	1	PRASA Preventive Maintenance /

				PRASA Telemetry
Instrument manufacturer training - analyzers *(add a row for each specific instrument requiring manufacturer's training)*	4	2	1	PRASA Preventive Maintenance Deparment
Instruments	16	2	1	PRASA Preventive Maintenance Deparment
Instruments - Operator familiarity	2	8	1	Operations
Alarm system training (Operators)	1	2	2	Operations
Fiber Optics	4	2	1	PRASA Preventive Maintenance / PRASA Telemetry

Note: Audience can be edited to coincide with PRASA's needs. Some of the staff works in "shifts" and therefore it may be necessary to provide training at various times to accommodate all plant staff.

B. Definitions of audience roles

1. PRASA Telemetry - personnel responsible for maintaining the HMI / SCADA system.

2. PRASA Preventive Maintenance Deparment- personnel responsible for maintaining the field controller hardware and instrumentation system.

3. Operations - personnel responsible for daily plant operations.

4. Management - non-daily operations personnel

3.03 MANUFACTURER'S TRAINING

A. Human Machine Interface (HMI) Software

1. Provide manufacturer's standard training courses for PRASA's personnel in the configuration, programming, and installation of the HMI software supplied. Conduct this course in separate beginner and advanced training sessions.

2. The following training shall be provided as a minimum:

a. Database generation.
b. Display generation.
c. Alarm system and configuration.
d. Historical data system configuration.
e. Report generation.
f. Security system.
g. Trending system.
h. Remote communications.
i. Software configuration.

j. Object Linking and Embedding (OLE) applications.
k. Test, adjustment, and calibration procedures.
l. Troubleshooting and diagnosis.

3. Training shall include classroom and hands-on instruction such that a student with experience in process instrumentation can configure the HMI with no guidance or with only minimal supervision when attempting complex problems.

B. Historian

1. Provide manufacturer's standard training courses for PRASA's personnel in the configuration, programming, and installation of the Historian software supplied.

2. The following training shall be provided as a minimum:

a. Database generation and configuration.
b. Trending system.
c. Using data exporters
d. Report generation.
e. Troubleshooting and diagnosis.
f. Managing historian Servers & data collectors
g. Configuring clients
h. Security
i. Alarm and Event configuration and archiving

3. Training shall include classroom and hands-on instruction such that a student with experience in process instrumentation can configure the Historian with no guidance or with only minimal supervision when attempting complex problems.

C. Programmable Logic Controller (PLC) Hardware and Software

1. Provide manufacturer's standard training courses for PRASA's personnel in the operation, configuration, programming, installation, and maintenance of the PLC hardware and software supplied. Conduct this course in separate beginner and advanced training sessions.

2. The following hardware training shall be provided as a minimum:

a. Hardware maintenance for the PLC equipment provided.
b. Test, adjustment, and calibration procedures.
c. Troubleshooting and diagnosis.
d. Component removal and replacement.
e. Periodic maintenance.

3. The following software training shall be provided as a minimum:

a. System configuration.
b. Application specific program development/programming.
c. Uploading/downloading programs.
d. Documenting program/configuration.
e. System backups and reload procedures.

f. TCP/IP addressing procedures.
g. Network communications configuration.

3.04 ONSITE TRAINING

A. Training personnel shall be intimately familiar with the control system equipment, its manipulation, and configuration. Training personnel shall command knowledge of system debugging, program modification, troubleshooting, maintenance procedure, system operation, and programming, and shall be capable of transferring this knowledge in an orderly fashion to technically oriented personnel.

B. Control System Overview Seminar

1. Provide a Control System Overview seminar for PRASA's personnel at the PRASA's facility. The objective of this seminar is to provide personnel with an overview understanding of the Control System. The seminar material shall target PRASA's management, engineering, and non-operations personnel. The seminar shall include, but not be limited to, the following:

a. An overview of the Control system explaining how the hardware and software supplied under this Contract are used to operate and control the facilities.
b. A block diagram presentation of the Control system showing how and what information flow within the system and what each functional unit does.
c. An explanation of the operator interfaces, including a demonstration of how to use an operator's workstation to monitor, control, navigate, display trends, and all other operational features of the system. Discussion of process control of individual processes shall be addressed outside of this course.
d. A walkthrough of the installed system explains each item covered in the functional units' discussion. The features and functions of operator controls and interfaces shall be discussed.

C. Operator Control System Training (pre or post-start-up)

1. Operator training shall cover plant operation with the control system and use of the HMI display screens, including, at a minimum, all the following items:

a. Basics of HMI control and navigation
b. Alarming and Interlocks
c. Auto functionality of automated processes and HMI control.
d. Failure modes of equipment and operator responses.

2. Minimum of two operator training sessions (Pre-Startup) for operators shall be held the week before system startup. Additional one or two operator training sessions (Post-Startup) for operators shall be held one week after system startup.

3. Operator training shall be held at the convenience of PRASA. This training may be held during the day, late at night, or early in the morning to accommodate PRASA'S shift schedule.

4. Operator training shall be introductory in nature during pre-startup training and more in-depth and detailed during post-startup training.

5. At a minimum, the following teaching aids shall be available for distribution during Operator training sessions:

    a. Preliminary O&M Manuals (pre-startup); Final O&M Manuals (post-startup).
    b. P&IDs.
    c. Daily syllabus.

6. Fifty percent of all Operator training shall be "hands-on" utilizing the installed Control System to the fullest extent possible. Confirm the operability of the Control System before commencing training. Training performed using a non-functioning Control System shall be rejected and repeated.

D. Software Maintenance

1. Provide training on back-up PLCs, HMIs, OITs, and any other software in this system.

2. Provide training on all aspects covered in the O&M Software Maintenance Manuals.

3. Provide training on PLC program structure, HMI configuration structure, tips in how to edit programming code and other items which will supplement the maintenance staff's ability to edit and maintain the programs.

E. System Reports and Historian Implementation

1. Provide training on how to run the reports, enter data manually, and print and reprint the reports.

2. Provide training on executing data queries outside of those defined in the reports.

3. Provide training on Historian configuration, report configuration, database maintenance and backup, and repair of failed reports.

F. Installed Control System Training

1. Provide training for PRASA’s personnel in the functionality, maintenance, and troubleshooting, of the installed Control System. The training shall be held before the Functional Test (FT), but not more than two (2) months before.

2. Training and instruction shall be specific to the system that is being supplied.

3. Training shall consist of classroom instructions and hands-on instruction utilizing the PRASA’s system.

4. Detailed training shall be provided on the actual configuration and implementation for this Contract. Training shall cover all aspects of the system that will allow PRASA’s personnel to maintain, modify, troubleshoot, and develop future additions/deletions to the system. The training shall cover the following subjects, as a minimum:

    a. System overview.
    b. System hardware components and specific equipment arrangements.
    c. Periodic maintenance.
    d. Troubleshooting and diagnosis.

e. Network configuration, communications, and operation.
f. TCP/IP addressing procedures for all Ethernet devices.

G. Programmable Logic Controller (PLC) Hardware and Software

1. Provide training for PRASA's personnel in the operation, maintenance, troubleshooting, etc. with the PLC hardware and software system. The training shall be held before the FT, but not more than two months before.

2. Training and instruction shall be specific to the system that is being supplied.

3. Training shall consist of classroom instructions and hands-on instruction utilizing PRASA's system.

4. Detailed training shall be provided on the actual configuration and implementation for this Contract. Training shall cover all aspects of the PLC system that will allow PRASA's personnel to maintain, modify, troubleshoot, and develop future additions/deletions to the PLC system. The training shall cover the following subjects, as a minimum:

a. PLC system overview.
b. PLC system architecture.
c. PLC system hardware components and specific equipment arrangements.
d. PLC system startup, shut down, load, backup, and PLC failure recovery.
e. Periodic maintenance.
f. Troubleshooting and diagnosis down to the I/O card level.
g. PLC configuration, communications, and operation.

H. Instrument Manufacturer Training

1. Manufacturer instrument training shall be provided for those instruments where specifically indicated in the Instruments section. This shall be on-site training provided by an authorized representative of the manufacturer. The manufacturer's representative shall be fully knowledgeable in the operation and maintenance of the equipment.

I. Instrument Training

1. Provide instruction on the maintenance of the field and panel instrumentation for PRASA's instrumentation technicians. This training shall be conducted before the FT, but no more than one (1) month before and at a time suitable to PRASA. This training shall take place at PRASA's facility. As a minimum the following shall be included:

a. Training in standard hardware maintenance for the instruments provided.
b. Specific training for the actual instrumentation configuration to provide a detailed understanding of how the equipment and components are arranged, connected, and set up for this Contract.
c. Test, adjustment, and calibration procedures.
d. Troubleshooting and diagnosis.
e. Periodic maintenance.

J. Instruments - Operator familiarity

1. Provide operator level instruction on the use of the field and panel instrumentation for PRASA's operations staff. This training shall be conducted before the 30 day site acceptance test, but no more than one (1) month before and at a time suitable to PRASA. This training shall take place at PRASA's facility. Include hands on demonstration of the information each transmitter indicates and the method used to retrieve any operator information from the transmitter, including use of pushbuttons and interpretation of international graphic symbols used on the instruments.

K. Alarm System Training:

1. The service provider will conduct training for the AESS operators relate alarm response and rationalization. This will include training on the priority of alarms, operator actions for each alarm, and changes to the system due to alarm design modifications.

L. Fiber Optic Training

1. Provide instruction on the maintenance of the fiber optic system for PRASA's instrumentation technicians. This training shall be conducted before the FT, but no more than one (1) month before and at a time suitable to PRASA. This training shall take place at the PRASA's facility. As a minimum the following shall be included:

a. Fiber cable layout and basic of cable construction.
b. Termination procedures
c. "Jumper" installation
d. Testing procedures.
e. Troubleshooting and diagnosis.

END OF SECTION

SECTION 13305
INSTRUMENTATION AND CONTROLS – CONTROL DESCRIPTIONS

PART 1 GENERAL

1.01 DEFINITIONS

A. Refer to Section 13300 Instrumentation and Controls-General Provisions.

1.02 SCOPE OF WORK

A. Applications Engineer System Supplier (AESS) Programming Scope

1. Develop the control system applications to implement the process control descriptions for all new and existing systems. This Section defines control strategies for PLC/SCADA programming of the system.

2. The Contract Documents are a single integrated document; as such, all Drawings, Specification Divisions, and Specification Sections apply. The Contractor and Subcontractors are responsible for reviewing all Sections to ensure a complete and coordinated project.

3. Before starting any programming, the AESS must be cautioned to read this Section and all related Sections. Many general control strategies and requirements are defined once in the body of this Section, with the specific requirement called out in the individual control strategy. Unless directed otherwise in the individual loop process control descriptions, implement these general strategies throughout this Contract.

4. Follow loop and device tagging criteria shown on the Drawings without exception.

5. Establish programming approach and database/variable identification standards before performing any programming work.

1.03 RELATED WORK

A. Refer to Section 13300 Instrumentation and Controls-General Provisions.

1.04 SUBMITTALS

A. Refer to Section 13300 Instrumentation and Controls-General Provisions.

1.05 REFERENCE STANDARDS

A. Refer to Section 13300 Instrumentation and Controls-General Provisions.

1.06 QUALITY ASSURANCE

A. Refer to Section 13300 Instrumentation and Controls-General Provisions.

PART 2 PRODUCTS (NOT USED)

2.01 GENERAL

A. The control descriptions are broken into areas. The following is a list of areas and the loop numbers associated with each area.

Influent P&ID-03	00-39
Flash Mix, Flocculation & Sedimentation P&ID-03	40-59
Filter 1, 2 & 3 P&ID-04	60-109
Air Scour Blowers P&ID-04	110-129
Backwash Pumps P&ID-05	130-149
Distribution Pumps P&ID-05	150-169
Sludge Holding Tank P&ID-07	170-189
Sludge Thickener Tank P&ID-07	190-209
Wash water P&ID-06	210-229
Plant Discharge P&ID-07	230-249
Chemical Feed: Sodium Hypochlorite & Coagulant P&ID-08	250-269
Continuous Monitoring Station P&ID-09	270-289
Emergency Generator P&ID-06	290-309

B. The control descriptions are sorted by loop number for each area. The loop index has three columns: Loop Number, Loop Description, and Page. Each loop is associated with a specific PLC/RIO I/O cabinet location to which it shall communicate.

C. The control descriptions are broken into a hierarchical layer concept. An example of a multiple-layered loop is as follows. The lowest layer of control, local control, is at that piece of equipment or that piece of equipment's panel LCP or drive. The second control layer is at an intermediate control panel between the equipment and the plant PLC/RIO I/O or vendor's PLC I/O. The third layer would be at the vendor's PLC or microprocessor touchscreen station or local OIT. The highest layer of control is by the SCADA System with its associated operator workstations (OWS) in the central control room and remote office locations. The SCADA PLC/ OWS refers to both the SCADA PLC, which does the actual monitoring and control logic for the process equipment, and the SCADA OWS, which are computers that have graphical software that interface to the PLC software for monitoring and implementing all operator-required tasks to control that process equipment.

2.02 CONTROL FUNCTION DEFINITIONS AND GENERAL CRITERIA

A. The hardware and software functions noted by this paragraph reference will be implemented by the SCADA PLC/OWS control system specified herein.

B. The following list of International Society of Automation (ISA) abbreviations is typical of those utilized. Following the abbreviation, the description summarizes the basic function to be implemented in the SCADA PLC/OWS software.

C. HS: Represent selector switches or pushbuttons, which shall be implemented by keyboard entry. The function shall be similar to its hardware counterparts. Examples are as follows:

1. HSH-Open Command
2. HSL-Close Command
3. HSS-Start/Stop Command

D. YI: Represents equipment status (i.e., availability, running, in remote, etc.) implemented by a change of color on the OWS symbol for this equipment. For motor-driven equipment such as pumps, blowers, compressors, etc., availability contact represents remote operation and no alarm conditions. Examples are as follows:

1. YCI-Selector switch in computer, auto or remote position.

2. YRI-Motor running status.

3. YFI-Motor failure or overload status.

4. YMI-Selector switch in the maintenance position.

5. FIC, PIC, AIC, etc.: Represent PID process controllers implemented in a computer logic algorithm incorporating proportional, integral, and derivative modes. Local/remote and manual/auto capabilities shall be provided.

6. FI, PI, AI, etc.: Represent digital output display on the CRT of a process variable in engineering units and/or a dynamic representation of the variable by symbol or graphical means.

7. ZSH, ZSL, etc.: Represent high or low, open, or close limit positions implemented on the OWS/OIT.

8. Setpoints: Refer to numerical values adjustable from the OWS/OIT.

9. Control Modes:

    a. Local: When local equipment controls HOA, LOR, or Local OIT selector is in the H or L position, Plant PLCs cannot control operation.

        1) Local Manual: Actions to be executed by local equipment controls to start/stop, open/close, or modulate speed or position from LCP, OIT, or embedded device local control.
        2) Local Auto: Logic to be executed by local when devices can execute logic without Plant PLC intervention.

    b. Remote: When equipment controls HOA, LOR, or Local OIT selector is in the A or R position, PLCs control operation.

        1) Remote Manual: Commands to be executed by the operators from OWS.
        2) Remote Automatic: Logic or sequence to be executed by Plant PLC without operator intervention.

E. Terminology associated with status is as follows:

1. When a contact or status is true, the PLC or controller will receive power to its input channel. The PLC registers this as a binary bit of one.

2. When a contact or status is false, the PLC or controller will receive no power (open circuit) to its input channel. The PLC registers this as a binary bit of zero.

F. Interlocks

1. Any interlocks mentioned before the local operational descriptions, or those identified as hardwired interlocks, must be connected to local controls and the PLC or vendor PLCs. If a hardwired interlock is connected to the PLC, then the PLC should be set up to shut down the relevant equipment.

2. All interlocks represented in a particular layer of the operational descriptions shall interlock all the controls in that layer and the layer after it. However, the interlock shall not interlock the commands in the layer before it.

3. Hardwired interlocks will interlock the controls locally at the device LCP, vendor PLC, and plant PLC. If the interlock occurs, the shutdown will cause the equipment to be inoperable at all levels of control.

4. Once the interlocks shutdown pieces of equipment, the interlock status must prevent the equipment from being restarted or moved until the conditions that trigger the interlock is cleared.

G. Motors

1. Provide monitoring and control of the signals shown on the P&IDs.

2. Hardwired and software interlocks are defined in individual loop descriptions.

3. Local OIT equipment control must mimic PRASA’s standard equipment control.

H. Valves

1. Provide monitoring and control of the signals shown on the P&IDs.

2. Hardwired and software interlocks are defined in individual loop descriptions.

3. Local OIT equipment control must mimic PRASA’s standard equipment control.

I. Analog Instruments

1. Analog instruments indicate devices capable of providing a continuous output relative to time.

2. Provide monitoring of the analog signals shown on the P&IDs.

3. Local OIT equipment control must mimic PRASA’s standard equipment control.

J. Discrete Instruments

1. Discrete instruments refer to indicating devices with any number of non-continuous defined states (e.g., ON/OFF, 0, or 1).

2. Provide monitoring of the discrete signals shown on the P&IDs.

    a. When a contact or status from the instrument is true, the PLC will receive power to its input channel. The PLC registers this as a binary bit of 1.
    b. When a contact or status from the instrument is false, the PLC will receive no power (open circuit) to its input channel. The PLC registers this as a binary bit of 0.

K. PLC Hardware

1. Monitor status and communication faults at the HMI.

L. Flow Totalizers

1. Flow totalizer must be done using PRASA's standard equipment control logic and graphic symbols.

M. PID Control

1. PID Control must be done using PRASA's standard equipment control logic, graphics, and faceplate.

2.03 INDIVIDUAL CONTROL DESCRIPTIONS AND CONTROL SEQUENCES

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LOOP 01 RAW WATER INTAKE – INSTANTANEOUS FLOW INDICATION; FIT-01-101

A. General

1. Continuous monitoring of raw water flow (FI-01-101)using a flow transmitter to RIO 1.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide instantaneous flow monitoring as shown on the P&IDs.

F. Data Collection

1. None.

LOOP 02 RAW WATER INTAKE – INSTANTANEOUS TURBIDITY INDICATION; AIT-01-101.

A. General

1. Continuous monitoring of raw water Turbidity (AI-01-101) using a Turbidity transmitter to RIO 1.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide turbidity monitoring as shown on the P&IDs.

2. Generate a High Turbidity alarm if Turbidity values exceed 500 NTU, AAH-01-101. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 03 RAW WATER INTAKE – INSTANTANEOUS PH & TEMPERATURE INDICATION; AIT-01-201.

A. General

1. Continuous monitoring of raw water PH (AI-01-201) & Temperature (TI-01-201) using a PH/Temperature transmitter to RIO 1.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide PH and Temperature monitoring as shown on the P&IDs.

F. Data Collection

1. N/A.

LOOP 04 REMOTE I/O RIO-1 – CONTACT SWITCH CONTROL PANEL DOOR OPEN INDICATION; YS-80-101.

A. General

1. Alarm event indication when Control Panel RIO 1 door is opened,YS-80-101.

B. Hardware Interlocks

1. None.

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. If control panel RIO 1 door is opened, generate an Open indication alarm at main control Panel, YAI-80-101. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 05 SAMPLE PUMP; PU-01-302

A. General

1. Sample Pump draws raw water from the plant influent to the continuous monitoring area for turbidity, ph and chlorine. Sample pump will operate in manual mode at the LCP.

B. Hardwired Interlocks

1. None

C. Software Interlocks

1. None.

D. Control

1. Sample pump will operate in manual mode

2. Local:

a. Control Mode:

1) Local Manual: The sample pump will start when the pump power switch is in the On position. The sample pump will stop when the power switch is in the Off position.
2) Local Automatic: None

3. Remote:

a. None

E. Alarms/Monitoring

1. None

F. Historical Data Collection

1. N/A

LOOP 40 FLASH MIX TANK – STREAMING CURRENT INDICATION; AIT-13-301

A. General

1. Continuous monitoring of streaming current (AI-13-301) using a Streaming Current analyzer transmitter and controller to RIO 1.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. Streaming Current analyzer and controller shall control, AC-13-301, the Coagulant Feed Pumps described in Loops 240.

2. The control shall maintain a Coagulant flow at the desired setpoint based on the Streaming Current potential entered by the operator at the Analyzer. The analyzer PID function will control the pump meter pacing.

E. Alarms/Monitoring

1. Provide Streaming Current monitoring as shown on the P&IDs.

F. Data Collection

1. None.

LOOP 41 FLASH MIX MIXER; MX-13-201

A. General

1. Flash mix motor with variable speed drives creates intense turbulence or agitation within the mixing chamber, which promotes the rapid and uniform dispersion of the added Coagulant.

B. Hardwired Interlocks

1. The pump cannot run if the following alarms are detected:

a. E-Stop
b. High Motor Temperature

C. Software Interlocks

1. None

D. Control

1. The speed of the motor mixer (PV) will be set by the operator based on the water flow entering the Flash Mix tank. VFD will maintain motor speed. Motor Run Status, XI-13-201, and Motor Speed indication, SI-13-201, shall be displayed at OWS.

2. Local:

a. The pumps can be controlled at the VFD LCP if the HAND-OFF-AUTO (HOA) selector is HAND, HSI-13-201.
b. Control Mode:

1) Local Manual: The operator must be able to start/stop and change speed from VFD keypad at LCP.
2) Local Automatic: None

3. Remote:

a. When the HAND-OFF-AUTO (HOA) selector is in AUTO, HSI-13-201, the control will be executed from OWS.
b. Control Mode:

1) Remote Manual: The operator must be able to start/stop, XC-13-201, and change the VFD speed via OWS, SC-13-201.

2) Remote Automatic: None

E. Alarms/Monitoring

1. Motor Fault indication, XA-13-201. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 42 FLOCCULATION MIXER NO 1 -FLOCCULATION TANK 1; MX-14-202

A. General

1. Flocculation mixer motor with variable speed drives gently stir the water, within the mixing chamber, promoting the aggregation of the destabilized particles into larger particles (flocs)which promotes the rapid and uniform dispersion of the added Coagulant.

B. Hardwired Interlocks

1. The pump cannot run if the following alarms are detected:

a. E-Stop
b. High Motor Temperature

C. Software Interlocks

1. None

D. Control

1. The Flocculation Mixer is started when a speed (%) setpoint is entered manually by the operator. VFD will maintain motor speed. Motor Run Status, XI-14-202, and Motor Speed indication, SI-14-202, shall be displayed at OWS.

2. Local:

a. The pumps can be controlled at the VFD LCP if the HAND-OFF-AUTO (HOA) selector is HAND, HSI-14-202.
b. Control Mode:

1) Local Manual: The operator must be able to start/stop and change speed from VFD keypad at LCP.
2) Local Automatic: None

3. Remote:

a. When the HAND-OFF-AUTO (HOA) selector is in AUTO, HSI-14-202, the control will be executed from OWS.
b. Control Mode:

1) Remote Manual: The operator must be able to start/stop, XC-14-202, and change the VFD speed via OWS, SC-14-202.

E. Alarms/Monitoring

1. Motor Fault Indication, XA-14-202. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 43 SEDIMENTATION TANK 1 – SLUDGE LEVEL INDICATION; LIT-16-101.

A. General

1. Continuous monitoring of Sludge level (LI-16-101) using a sludge level indication and transmitter to RIO 1.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide sludge level monitoring as shown on the P&IDs.

F. Data Collection

1. N/A.

LOOP 44 FLOCCULATION MIXER NO 1 -FLOCCULATION TANK 2; MX-14-204.

A. General

1. Flocculation mixer motor with variable speed drives gently stir the water, within the mixing chamber, promoting the aggregation of the destabilized particles into larger particles (flocs)which promotes the rapid and uniform dispersion of the added Coagulant.

B. Hardwired Interlocks

1. The pump cannot run if the following alarms are detected:

a. E-Stop

b. High Motor Temperature

C. Software Interlocks

1. None

D. Control

1. The Flocculation Mixer is started when a speed (%) setpoint is entered manually by the operator. VFD will maintain motor speed. Motor Run Status, XI-14-204, and Motor Speed indication, SI-14-204, shall be displayed at OWS.

2. Local:

a. The pumps can be controlled at the VFD LCP if the HAND-OFF-AUTO (HOA) selector is HAND, HSI-14-204.
b. Control Mode:

1) Local Manual: The operator must be able to start/stop and change speed from VFD keypad at LCP.
2) Local Automatic: None

3. Remote:

a. When the HAND-OFF-AUTO (HOA) selector is in AUTO, HSI-14-204, the control will be executed from OWS.
b. Control Mode:

1) Remote Manual: The operator must be able to start/stop, XC-14-204, and change the VFD speed via OWS, SC-14-204.

E. Alarms/Monitoring

1. Motor Fault Indication, XA-14-204. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 45 FLOCCULATION MIXER NO 2 -FLOCCULATION TANK 2; MX-14-205.

A. General

1. Flocculation mixer motor with variable speed drives gently stir the water, within the mixing chamber, promoting the aggregation of the destabilized particles into larger particles (flocs)which promotes the rapid and uniform dispersion of the added Coagulant.

B. Hardwired Interlocks

1. The pump cannot run if the following alarms are detected:

a. E-Stop
b. High Motor Temperature

C. Software Interlocks

1. None

D. Control

1. The Flocculation Mixer is started when a speed (%) setpoint is entered manually by the operator. VFD will maintain motor speed. Motor Run Status, XI-14-205, and Motor Speed indication, SI-14-205, shall be displayed at OWS.

2. Local:

a. The pumps can be controlled at the VFD LCP if the HAND-OFF-AUTO (HOA) selector is HAND, HSI-14-205.
b. Control Mode:

1) Local Manual: The operator must be able to start/stop and change speed from VFD keypad at LCP.
2) Local Automatic: None

3. Remote:

a. When the HAND-OFF-AUTO (HOA) selector is in AUTO, HSI-14-205, the control will be executed from OWS.
b. Control Mode:

1) Remote Manual: The operator must be able to start/stop, XC-14-205, and change the VFD speed via OWS, SC-14-205.

E. Alarms/Monitoring

1. Motor Fault Indication, XA-14-205. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 46 SEDIMENTATION TANK 2 – SLUDGE LEVEL INDICATION; LIT-16-102.

A. General

1. Continuous monitoring of Sludge level (LI-16-102) using a sludge level indication and transmitter to RIO 1.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide sludge level monitoring as shown on the P&IDs.

F. Data Collection

1. N/A.

LOOP 47 SLUDGE REMOVAL BUTTERFLY VALVE; XV-16-101, SEDIMENTATION TANK 1

A. General

1. OPEN-CLOSE (OC) and POSITION Sludge removal Sedimentation Tank 1.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-16-101, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-16-101, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control available at the LCP or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-16-101, the valve should be able to open and close from the actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-16-101) is transferred to OWS. The valve can be controlled at OWS in AUTO mode.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OWS, XC-16-101. OWS mut show an OPEN (ZIO-16-101) and Close (ZIC-16-101) indication.
2) Remote Automatic: None

D. Alarms/Monitoring

1. Valve Fault indication, XA-16-101. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 48 SLUDGE REMOVAL BUTTERFLY VALVE; XV-16-102, SEDIMENTATION TANK 2

A. General

1. OPEN-CLOSE (OC) and POSITION Sludge removal Sedimentation Tank 2.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-16-102, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-16-102, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control available at the LCP or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-16-102, the valve should be able to open and close from the actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-16-102) is transferred to OWS. The valve can be controlled at OWS in AUTO mode.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OWS, XC-16-102. OWS mut show an OPEN (ZIO-16-102) and Close (ZIC-16-102) indication.
2) Remote Automatic: None

D. Alarms/Monitoring

1. Valve Fault indication, XA-16-102. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 49 SAMPLE PUMP; PU-13-301

A. General

1. Sample Pump draws raw water from the flow splitter chamber to the Streaming Current Analyzer, AIT-13-301. Sample pump will operate in manual mode at the LCP.

B. Hardwired Interlocks

1. None

C. Software Interlocks

1. None.

D. Control

1. Sample pump will operate in manual mode

2. Local:

a. Control Mode:

1) Local Manual: The sample pump will start when the pump power switch is in the On position. The sample pump will stop when the power switch is in the Off position.
2) Local Automatic: None

3. Remote:

a. None

E. Alarms/Monitoring

1. None

F. Historical Data Collection

1. N/A

LOOP 50 SAMPLE PUMP; PU-16-303

A. General

1. Sample Pump draws raw water from the Sedimentation Tank 1 clear water line to the continuous monitoring area for turbidity, ph and chlorine. Sample pump will operate in manual mode at the LCP.

B. Hardwired Interlocks

1. None

C. Software Interlocks

1. None.

D. Control

1. Sample pump will operate in manual mode

2. Local:

a. Control Mode:

1) Local Manual: The sample pump will start when the pump power switch is in the On position. The sample pump will stop when the power switch is in the Off position.
2) Local Automatic: None

3. Remote:

a. None

E. Alarms/Monitoring

1. None

F. Historical Data Collection

1. N/A

LOOP 51 SAMPLE PUMP; PU-16-304

A. General

1. Sample Pump draws raw water from the Sedimentation Tank 2 clear water line to the continuous monitoring area for turbidity, ph and chlorine. Sample pump will operate in manual mode at the LCP.

B. Hardwired Interlocks

1. None

C. Software Interlocks

1. None.

D. Control

1. Sample pump will operate in manual mode

2. Local:

a. Control Mode:

1) Local Manual: The sample pump will start when the pump power switch is in the On position. The sample pump will stop when the power switch is in the Off position.
2) Local Automatic: None

3. Remote:

a. None

E. Alarms/Monitoring

1. None

F. Historical Data Collection

1. N/A

LOOP 60 FILTER 1 – WATER LEVEL INDICATION; LIT-21-201.

A. General

1. Continuous monitoring of water level at Filter 1 using a Level Indication (LI-21-201) and Transmitter to CP-F-01.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide water level monitoring as shown on the P&IDs.

F. Data Collection

1. N/A.

LOOP 61 FILTER 1 – DIFFERENTIAL PRESSURE INDICATION; DPT-21-301.

A. General

1. Continuous monitoring of differential pressure (DPI-21-301) between the filter media using a Differential Pressure Indication and Transmitter to CP-F-01.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide differential pressure monitoring as shown on the P&IDs.

2. Generate a High Differential Pressure Alarm, PAH-21-301, when exceeds a predetermined value. If predetermined value is exceeded, the alarm event will indicate operator to perform a backwash to the filter

F. Data Collection

1. N/A.

LOOP 62 FILTER 1 - FILTERED WATER INSTANTANEOUS TURBIDITY INDICATION; AIT-21-102.

A. General

1. Continuous monitoring of filtered water Turbidity (AI-21-102) using a Turbidity Indication and Transmitter to CP-F-01.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None.

D. Control

1. None

E. Alarms/Monitoring

1. Provide turbidity monitoring as shown on the P&IDs.

2. Generate a High Turbidity Alarm, AAH-21-102, when filtered water turbidity exceeds 0.15 NTU. If 0.15 NTU value is exceeded, the alarm event will indicate operator to perform a backwash to the filter. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 63 FILTER 1 – FILTERED WATER INSTANTANEOUS FLOW INDICATION; FIT-21-102.

A. General

1. Continuous monitoring of filtered water flow (FI-21-102) using a Flow Indication and Transmitter to CP-F-01.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide Instantaneous flow monitoring as shown on the P&IDs.

F. Data Collection

1. None.

LOOP 64 FILTER 1 INLET BUTTERFLY VALVE; XV-21-103

A. General

1. OPEN-CLOSE (OC) and POSITION to isolate clear water flow from the sedimentation tanks to the Filter.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-103, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-103, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-01) or from OWS.

2. Local:

    a. The valve must be able to operate from the actuator.

    b. Control Mode:

        1) Local Manual: When in the manual, HSI-21-103, the valve should be able to open and close from actuator.
        2) Local Automatic: None.

3. Remote:

    a. Control (XC-21-103) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
    b. Control Mode:

        1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-103. OIT/OWS mut show an OPEN (ZIO-21-103) and Close (ZIC-21-103) indication.
        2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 70 or Loop 71.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-103. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 65 FILTER 1 WASH WATER BUTTERFLY VALVE; XV-21-104

A. General

1. OPEN-CLOSE (OC) and POSITION to discharge Wash Water from the Filter to the Sludge Holding Tank during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-104, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-104, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-01) or from OWS.

2. Local:

   a. The valve must be able to operate from the actuator.

   b. Control Mode:

      1) Local Manual: When in the manual, HSI-21-104, the valve should be able to open and close from actuator.
      2) Local Automatic: None.

3. Remote:

   a. Control (XC-21-104) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
   b. Control Mode:

      1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-104. OIT/OWS mut show an OPEN (ZIO-21-104) and Close (ZIC-21-104) indication.
      2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 70 or Loop 71.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-104. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 66 FILTER 1 FILTERED WATER BUTTERFLY VALVE; XV-21-105

A. General

1. OPEN-CLOSE (OC) and POSITION to permit the transfer of Filtered Water from the Filter Unit to the Clearwell.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-105, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-105, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-01) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-105, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-105) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-105. OIT/OWS mut show an OPEN (ZIO-21-105) and Close (ZIC-21-105) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 70 or Loop 71.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-105. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 67 FILTER 1 FILTER TO WASTE BUTTERFLY VALVE; XV-21-106

A. General

1. OPEN-CLOSE (OC) and POSITION to discharge discarded water from Filter Unit to the Sludge Holding Tank during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-106, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-106, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-01) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-106, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-106) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-106. OIT/OWS mut show an OPEN (ZIO-21-106) and Close (ZIC-21-106) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 70 or Loop 71.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-106. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 68 FILTER 1 BACKWASH BUTTERFLY VALVE; XV-21-107

A. General

1. OPEN-CLOSE (OC) and POSITION will permit Backwash water from Wash Water Storage Tank to Filter Unit during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-107, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-107, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-01) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-107, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-107) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-107. OIT/OWS mut show an OPEN (ZIO-21-107) and Close (ZIC-21-107) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 70 or Loop 71.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-107. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 69 FILTER 1 AIR SCOUR BUTTERFLY VALVE; XV-21-108

A. General

1. OPEN-CLOSE (OC) and POSITION to permit air pass from the Air Scour System to Filter Unit during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-108, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-108, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-01) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-108, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-108) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-108. OIT/OWS mut show an OPEN (ZIO-21-108) and Close (ZIC-21-108) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 70 or Loop 71.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-108. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 70 FILTER 1 OPERATION

A. General

1. Filter operation removes suspended particles, contaminants, and microorganisms to ensure the process water complies with turbidity threshold and quality established by regulatory requirements. The control operation is either at the CP-F-01 or OWS.

B. Hardware Interlocks
   a. None

C. Software Interlocks

1. If one of the valves has a FAULT, the PLC system places the Filtering Process at the PLC in manual.

D. Control

1. Control sequence of operation of the Filtering process that includes Filter Unit and associated valves: Inlet Valve, Wash Water Valve, Filtered Water Valve, Filter to Waste Valve, Backwash Valve and Air Scour Valve. Also, the instrumentation (Turbidity, Differential Pressure, Level and Flow) that will monitor, control and generate alarm during the process

2. Local:

   a. Valves will be used to isolate or permit flow from in or out of the filter.

      1) Control Mode:
         a) Local Manual: When the Filter is in manual operation, all valves must be able to operate from the actuator:

            Filter Inlet Valve, XV-21-103, Refer to Loop 64
            Wash Water Valve, XV-21-104, Reer to Loop 65
            Filtered Water Valve, XV-21-105, Refer to Loop 66
            Filter To Waste Valve, XV-21-106, Refer to Loop 67
            Backwash Valve, XV-21-107, Refer to Loop 68
            Air Scour Valve, XV-21-108, Refer to Loop 69

         b) Local Automatic: None.

3. Remote:

   a. Control is transferred to OIT/OWS. The valves can be controlled at OWS/OIT in MANUAL or AUTO modes.
   b. Control Mode:

      1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OWS/OIT.

         Filter Inlet Valve, XV-21-103, Refer to Loop 64
         Wash Water Valve, XV-21-104, Reer to Loop 65
         Filtered Water Valve, XV-21-105, Refer to Loop 66

Filter To Waste Valve, XV-21-106, Refer to Loop 67
Backwash Valve, XV-21-107, Refer to Loop 68
Air Scour Valve, XV-21-108, Refer to Loop 69

2) Remote Automatic: After the water has gone through initial treatments, it enters the filtration unit. Filter Inlet Valve, XV-21-103, (Refer to Loop 64) is opened. Clear water from sedimentation basins passes through the filtration media. Water level at the filter unit is monitored by Level transmitter, LIT-21-201 (Refer to Loop 60). As the water passes through the filter media, filtered water, now free of most particulates and contaminants, is collected at the bottom of the filter bed and directed to the Clear Well. Filtered Water Valve, XV-21-105 (Refer to Loop 66) is opened. Filtered water turbidity is monitored by Turbidity Transmitter, AIT-21-102 (Refer to Loop 62)

During this process:
a) Wash Water Valve, XV-21-104 (Reer to Loop 65) is closed.
b) Filter To Waste Valve, XV-21-106 (Refer to Loop 67) is closed
c) Backwash Valve, XV-21-107 (Refer to Loop 68) is closed
d) Air Scour Valve, XV-21-108 (Refer to Loop 69) is closed

3) In this operation sequence Air Scour System is Off.

E. Alarms/Monitoring

1. If turbidity value at Turbidity Transmitter, AIT-21-102 (Refer to Loop 62) exceeds a 0.15 NTU value an alarm must be generated.

2. If differential pressure values at Differential Pressure Transmitter, DPT-21-301 (Refer to Loop 61) exceeds a predetermine value an alarm must be generated.

3. If one of the valves has a FAULT, an alarm is generated. An audible alarm is produced at CP-01.

F. Data Collection

1. None

LOOP 71 FILTER 1 BACKWASH

A. General

1. The backwash process is to maintain and clean filter, to restore the filter's efficiency and ensure consistent water quality. A detailed control sequence operation of the Backwash process is described. Operation is either at the CP-F-01 OIT or OWS.

B. Hardware Interlocks
    a. None

C. Software Interlocks

1. Only one of the three filters can run a Backwash process at a time.

2. If one of the valves has a FAULT, the PLC system places the Backwash Process at the PLC in manual.

D. Control

1. Control sequence of operation of the Backwash process that includes Filter Unit and associated valves: Inlet Valve, Wash Water Valve, Filtered Water Valve, Filter to Waste Valve, Backwash Valve and Air Scour Valve. Also, the instrumentation (Turbidity, Differential Pressure, Level and Flow) that will monitor, control and generate alarm during the process

2. Local:

    a. Valves will be used to isolate or permit flow from In or Out of the filter.

        1) Control Mode:
            a) Local Manual: When the Filter is in manual operation, all valves must be able to operate from the actuator:

                Filter Inlet Valve, XV-21-103, Refer to Loop 64
                Wash Water Valve, XV-21-104, Reer to Loop 65
                Filtered Water Valve, XV-21-105, Refer to Loop 66
                Filter To Waste Valve, XV-21-106, Refer to Loop 67
                Backwash Valve, XV-21-107, Refer to Loop 68
                Air Scour Valve, XV-21-108, Refer to Loop 69

            b) Local Automatic: None.

3. Remote:

    a. Control is transferred to OIT/OWS. The valves can be controlled at OWS/OIT in MANUAL or AUTO modes.
    b. Control Mode:

        1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OWS/OIT.

            Filter Inlet Valve, XV-21-103, Refer to Loop 64
            Wash Water Valve, XV-21-104, Reer to Loop 65
            Filtered Water Valve, XV-21-105, Refer to Loop 66

Filter To Waste Valve, XV-21-106, Refer to Loop 67
Backwash Valve, XV-21-107, Refer to Loop 68
Air Scour Valve, XV-21-108, Refer to Loop 69

2) Remote Automatic: When Backwash start is selected in Automatic mode, Clear water intake is isolated from Filter. Filter Inlet Valve, XV-21-103, closes (Refer to Loop 64). The water level at Filter drops to a predetermined level. Level is determined by level transmitter, LIT-21-201 (Refer to Loop 60). Air Scour Valve, XV-21-108 (Refer to Loop 69), opens and compressed air motor is turned ON. The Air will cause the Filter Bed to expand breaking up the compacted filter bed and forcing the accumulated particles into suspension. Air Scour treatment will last up to a predetermined time. After the air scouring cycle, the air scouring valve is closed. The Backwash Valve, XV-21-107 (Refer to Loop 68), and Wash Water Valve, XV-21-104 (Refer to Loop 65), opens. Clean backwash water is forced upwards through the filter bed continuing the filter bed expansion and carrying the particles in suspension into the backwash troughs, and then, ending in the Sludge Holding Tanks via the Wash Water Valve. Backwashing continues for a fixed time. At the end of the backwash cycle, the upward flow of water is terminated by closing the Backwash Valve. The filter bed settles by gravity into its initial configuration. Water to be filtered is then applied to the filter by opening the Inlet Valve XV-21-103 (Refer to Loop 64). The Filter to Waste Valve opens, XV-21-106, (Refer to Loop 67) and water will be directed to the Sludge Holding Tank until turbidity values (Turbidity Analyzer, AIT-21-102, Refer to loop 62) gets below 0.15 NTU. After turbidity values complies with value, Filter to Waste Valve, XV-21-106 (Refer to Loop 67) closes and Filtered Valve Opens, XV-21-105 (Refer to Loop 66). The filter enters into operation.

E. Alarms/Monitoring

1. If one of the valves has a FAULT, an alarm is generated. An audible alarm is produced at CP-01.

F. Data Collection

1. None

LOOP 72 FILTER 2 – WATER LEVEL INDICATION; LIT-21-202.

A. General

1. Continuous monitoring of water level (LI-21-202) at Filter 2 using a Level Indication and Transmitter to CP-F-02.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide water level monitoring as shown on the P&IDs.

F. Data Collection

1. N/A.

LOOP 73 FILTER 2 – DIFFERENTIAL PRESSURE INDICATION; DPT-21-302.

A. General

1. Continuous monitoring of differential pressure (DPI-21-302) between the filter media using a Differential Pressure Indication and Transmitter to CP-F-02.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide differential pressure monitoring as shown on the P&IDs.

2. Generate a High Differential Pressure Alarm, PAH-21-302, when exceeds a predetermined value. If predetermined value is exceeded, the alarm event will

indicate operator to perform a backwash to the filter. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 74 FILTER 2 - FILTERED WATER INSTANTANEOUS TURBIDITY INDICATION; AIT-21-103.

A. General

1. Continuous monitoring of filtered water Turbidity (AI-21-103) using a Turbidity Indication and Transmitter to CP-F-02.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None.

D. Control

1. None

E. Alarms/Monitoring

1. Provide turbidity monitoring as shown on the P&IDs.

2. Generate a High Turbidity Alarm, AAH-21-103, when filtered water turbidity exceeds 0.15 NTU value. If value is exceeded, the alarm event will indicate operator to perform a backwash to the filter. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 75 FILTER 2 – FILTERED WATER INSTANTANEOUS FLOW INDICATION; FIT-21-103

A. General

1. Continuous monitoring of filtered water flow (FI-21-103) using a Flow Indication and Transmitter to CP-F-02.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide Instantaneous flow monitoring as shown on the P&IDs.

F. Data Collection

1. None.

LOOP 76 FILTER 2 INLET BUTTERFLY VALVE; XV-21-109

A. General

1. OPEN-CLOSE (OC) and POSITION to isolate clear water flow from the sedimentation tanks to the Filter.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-109, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-109, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-02) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-109, the valve should be able to open and close from actuator.

2) Local Automatic: None.

3. Remote:

a. Control (XC-21-109) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-109. OIT/OWS mut show an OPEN (ZIO-21-113) and Close (ZIC-21-109) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 82 or Loop 83.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-109. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 77 FILTER 2 WASH WATER BUTTERFLY VALVE; XV-21-110

A. General

1. OPEN-CLOSE (OC) and POSITION to discharge Wash Water from the Filter to the Sludge Holding Tank during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-110, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-110, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-02) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-110, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-110) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-110. OIT/OWS mut show an OPEN (ZIO-21-110) and Close (ZIC-21-110) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 82 or Loop 83.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-110. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 78 FILTER 2 FILTERED WATER BUTTERFLY VALVE; XV-21-111

A. General

1. OPEN-CLOSE (OC) and POSITION to permit the transfer of Filtered Water from the Filter Unit to the Clearwell.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-111, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-111, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-02) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-111, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-111) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-111. OIT/OWS mut show an OPEN (ZIO-21-111) and Close (ZIC-21-111) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 82 or Loop 83.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-111. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 79 FILTER 2 FILTER TO WASTE BUTTERFLY VALVE; XV-21-112

A. General

1. OPEN-CLOSE (OC) and POSITION to discharge discarded water from Filter Unit to the Sludge Holding Tank during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-112, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-112, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control available at the valve actuator, LCP (CP-F-02) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-112, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-112) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-112. OIT/OWS mut show an OPEN (ZIO-21-112) and Close (ZIC-21-112) indication.
2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 82 or Loop 83.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-112. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 80 FILTER 2 BACKWASH BUTTERFLY VALVE; XV-21-113

A. General

1. OPEN-CLOSE (OC) and POSITION will permit Backwash water from Wash Water Storage Tank to Filter Unit during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-113, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-113, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-02) or from OWS.

2. Local:

    a. The valve must be able to operate from the actuator.

    b. Control Mode:

        1) Local Manual: When in the manual, HSI-21-113, the valve should be able to open and close from actuator.
        2) Local Automatic: None.

3. Remote:

    a. Control (XC-21-113) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
    b. Control Mode:

        1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-113. OIT/OWS mut show an OPEN (ZIO-21-113) and Close (ZIC-21-113) indication.
        2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 82 or Loop 83.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-113. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 81 FILTER 2 AIR SCOUR BUTTERFLY VALVE; XV-21-114

A. General

1. OPEN-CLOSE (OC) and POSITION to permit air pass from the Air Scour System to Filter Unit during the Backwash process.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-114, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-114, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control are available at the valve actuator, LCP (CP-F-02) or from OWS.

2. Local:

   a. The valve must be able to operate from the actuator.

   b. Control Mode:

      1) Local Manual: When in the manual, HSI-21-114, the valve should be able to open and close from actuator.
      2) Local Automatic: None.

3. Remote:

   a. Control (XC-21-114) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
   b. Control Mode:

      1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-114. OIT/OWS mut show an OPEN (ZIO-21-114) and Close (ZIC-21-114) indication.
      2) Remote Automatic: In AUTO mode, the valve is positioned by the FILTER Automatic Control Sequence described in Loop 82 or Loop 83.

D. Alarms/Monitoring

1. Valve Fault indication, XA-21-114. An audible alarm is produced at CP-01.

E. Data Collection

1. N/A

LOOP 82 FILTER 2 - OPERATION

A. General

1. Filter operation removes suspended particles, contaminants, and microorganisms to ensure the process water complies with turbidity threshold and quality established by regulatory requirements. The control operation is either at the CP-F-02 or OWS.

B. Hardware Interlocks
   a. None

C. Software Interlocks

1. If one of the valves has a FAULT, the PLC system places the Filtering Process in the PLC manual.

D. Control

1. Control sequence of operation of the Filtering process that includes Filter Unit and associated valves: Inlet Valve, Wash Water Valve, Filtered Water Valve, Filter to Waste Valve, Backwash Valve and Air Scour Valve. Also, the instrumentation (Turbidity, Differential Pressure, Level and Flow) that will monitor, control and generate alarm during the process

2. Local:

   a. Valves will be used to isolate or permit flow from in or out of the filter.

      1) Control Mode:
         a) Local Manual: When the Filter is in manual operation, all valves must be able to operate from the actuator:

            Filter Inlet Valve, XV-21-109, Refer to Loop 76
            Wash Water Valve, XV-21-110, Reer to Loop 77
            Filtered Water Valve, XV-21-111, Refer to Loop 78
            Filter To Waste Valve, XV-21-112, Refer to Loop 79
            Backwash Valve, XV-21-113, Refer to Loop 80
            Air Scour Valve, XV-21-114, Refer to Loop 81

         b) Local Automatic: None.

3. Remote:

   a. Control is transferred to OIT/OWS. The valves can be controlled at OWS/OIT in MANUAL or AUTO modes.
   b. Control Mode:

      1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OWS/OIT.

         Filter Inlet Valve, XV-21-109, Refer to Loop 76
         Wash Water Valve, XV-21-110, Reer to Loop 77
         Filtered Water Valve, XV-21-111, Refer to Loop 78
         Filter To Waste Valve, XV-21-112, Refer to Loop 79
         Backwash Valve, XV-21-113, Refer to Loop 80
         Air Scour Valve, XV-21-114, Refer to Loop 81

      2) Remote Automatic: After the water has gone through initial treatments, it enters the filtration unit. Filter Inlet Valve, XV-21-109, (Refer to Loop 76) is open. Clear water from sedimentation basins passes through the filtration media. Water level at the filter unit is

monitored by Level transmitter, LIT-21-202 (Refer to Loop 72). As the water passes through the filter media, filtered water, now free of most particulates and contaminants, is collected at the bottom of the filter bed and directed to the Clear Well. Filtered Water Valve, XV-21-111 (Refer to Loop 78) is opened. Filtered water turbidity is monitored by Turbidity Transmitter, AIT-21-103 (Refer to Loop 74)

During this process:

Wash Water Valve, XV-21-110 (Reer to Loop 77) is closed.
Filter To Waste Valve, XV-21-112 (Refer to Loop 79) is closed
Backwash Valve, XV-21-113 (Refer to Loop 80) is closed
Air Scour Valve, XV-21-114 (Refer to Loop 81) is closed

3) In this operation sequence Air Scour System is Off.

E. Alarms/Monitoring

1. If turbidity value at Turbidity Transmitter, AIT-21-103 (Refer to Loop 74) exceeds a predetermine value an alarm must be generated.

2. If differential pressure values at Differential Pressure Transmitter, DPT-21-302 (Refer to Loop 73) exceeds a predetermine value an alarm must be generated.

3. If one of the valves has a FAULT, an alarm is generated.

F. Data Collection

1. None

LOOP 83 FILTER 2 - BACKWASH

A. General

1. The backwash process is to maintain and clean filter, to restore the filter's efficiency and ensure consistent water quality. A detailed control sequence operation of the Backwash process is described. Operation is either at the CP-F-02 OIT or OWS.

B. Hardware Interlocks

a. None

C. Software Interlocks

1. Only one of the three filters can run a Backwash process at a time.

2. If one of the valves has a FAULT, the PLC system places the Backwash Process in the PLC manual.

D. Control

1. Control sequence of operation of the Backwash process that includes Filter Unit and associated valves: Inlet Valve, Wash Water Valve, Filtered Water Valve, Filter to Waste Valve, Backwash Valve and Air Scour Valve. Also, the instrumentation (Turbidity, Differential Pressure, Level and Flow) that will monitor, control and generate alarm during the process

2. Local:

   a. Valves will be used to isolate or permit flow from In or Out of the filter.

      1) Control Mode:
         a) Local Manual: When the Filter is in manual operation, all valves must be able to operate from the actuator:

            Filter Inlet Valve, XV-21-109, Refer to Loop 76
            Wash Water Valve, XV-21-110, Reer to Loop 77
            Filtered Water Valve, XV-21-111, Refer to Loop 78
            Filter To Waste Valve, XV-21-112, Refer to Loop 79
            Backwash Valve, XV-21-113, Refer to Loop 80
            Air Scour Valve, XV-21-114, Refer to Loop 81

         b) Local Automatic: None.

3. Remote:

   a. Control is transferred to OIT/OWS. The valves can be controlled at OWS/OIT in MANUAL or AUTO modes.
   b. Control Mode:

      1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OWS/OIT.

         Filter Inlet Valve, XV-21-109, Refer to Loop 76
         Wash Water Valve, XV-21-110, Reer to Loop 77
         Filtered Water Valve, XV-21-111, Refer to Loop 78
         Filter To Waste Valve, XV-21-112, Refer to Loop 79
         Backwash Valve, XV-21-113, Refer to Loop 80
         Air Scour Valve, XV-21-114, Refer to Loop 81

      2) Remote Automatic: When Backwash start is selected in Automatic mode, Clear water intake is isolated from Filter. Filter Inlet Valve, XV-21-109, closes (Refer to Loop 76). The water level at Filter drops to a predetermined level. Level is determined by level transmitter, LIT-21-202 (Refer to Loop 72). Air Scour Valve, XV-21-114 (Refer to Loop 81), opens and compressed air motor is turned ON. The Air will cause the Filter Bed to expand breaking up the compacted filter

bed and forcing the accumulated particles into suspension. Air Scour treatment will last up to a predetermined time. After the air scour cycle, the air scouring valve is closed. The Backwash Valve, XV-21-113 (Refer to Loop 80), and wash water valve, XV-21-110 (Refer to Loop 77), opens. Clean backwash water is forced upwards through the filter bed continuing the filter bed expansion and carrying the particles in suspension into the backwash troughs, and then, ending in the Sludge Holding Tanks via the Wash Water Valve. Backwashing continues for a fixed time. At the end of the backwash cycle, the upward flow of water is terminated by closing the Backwash Valve. The filter bed settles by gravity into its initial configuration. Water to be filtered is then applied to the filter by opening the Inlet Valve XV-21-109 (Refer to Loop 76). The Filter to Waste Valve opens XV-21-112 (Refer to Loop 79) and water will be directed to the Sludge Holding Tank until turbidity values (Turbidity Analyzer, AIT-21-103 (Refer to loop 74) gets below the 0.15 NTU value. After turbidity values complies, Filter to Waste Valve, XV-21-112 (Refer to Loop 79) closes and Filtered Water Valve Opens, XV-21-111 (Refer to Loop 78). The filter enters into operation.

E. Alarms/Monitoring

1. If one of the valves has a FAULT, an alarm is generated. An audible alarm is produced at CP-01.

F. Data Collection

1. Provide historical data collection as required in specification 13306.

LOOP 84 FILTER 3 – WATER LEVEL INDICATION; LIT-21-203.

A. General

1. Continuous monitoring of water level (LI-21-203) at Filter 3 using a Level Indication and Transmitter to CP-F-03.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide water level monitoring as shown on the P&IDs.

F. Data Collection

1. N/A.

LOOP 85 FILTER 3 – DIFFERENTIAL PRESSURE INDICATION; DPT-21-303.

A. General

1. Continuous monitoring of differential pressure (DPI-21-303) between the filter media using a Differential Pressure Indication and Transmitter to CP-F-03.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide differential pressure monitoring as shown on the P&IDs.

2. Generate a High Differential Pressure Alarm, PAH-21-303, when exceeds a predetermined value. If predetermined value is exceeded, the alarm event will indicate operator to perform a backwash to the filter

F. Data Collection

1. N/A.

LOOP 86 FILTER 3 - FILTERED WATER INSTANTANEOUS TURBIDITY INDICATION; AIT-21-104.

A. General

1. Continuous monitoring of filtered water Turbidity (AI-21-104) using a Turbidity Indication and Transmitter to CP-F-03.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None.

D. Control

1. None

E. Alarms/Monitoring

1. Provide turbidity monitoring as shown on the P&IDs.

2. Generate a High Turbidity Alarm, AAH-21-104, when filtered water turbidity exceeds 0.15 NTU value. If value is exceeded, the alarm event will indicate operator to perform a backwash to the filter. An audible alarm is produced at CP-01.

F. Data Collection

1. N/A.

LOOP 87 FILTER 3 – FILTERED WATER INSTANTANEOUS FLOW INDICATION; FIT-21-104

A. General

1. Continuous monitoring of filtered water flow (FI-21-104) using a Flow Indication and Transmitter to CP-F-03.

B. Hardware Interlocks

1. None

C. Software Interlocks

1. None

D. Control

1. None.

E. Alarms/Monitoring

1. Provide Instantaneous flow monitoring as shown on the P&IDs.

F. Data Collection

1. None.

LOOP 88 FILTER 3 INLET BUTTERFLY VALVE; XV-21-115

A. General

1. OPEN-CLOSE (OC) and POSITION to isolate clear water flow from the sedimentation tanks to the Filter.

B. Software Interlocks

1. If the valve is not in REMOTE, HSI-21-115, the PLC system places the valve in the manual.

2. If the valve has a FAULT, XA-21-115, the PLC system places the valve in the PLC manual.

C. Control

1. OPEN-CLOSE (OC) and POSITION control available at the valve actuator, LCP (CP-F-03) or from OWS.

2. Local:

a. The valve must be able to operate from the actuator.

b. Control Mode:

1) Local Manual: When in the manual, HSI-21-115, the valve should be able to open and close from actuator.
2) Local Automatic: None.

3. Remote:

a. Control (XC-21-115) is transferred to OIT/OWS. The valve can be controlled at OIT/OWS in MANUAL or AUTO modes.
b. Control Mode:

1) Remote Manual: The Operator to manually OPEN or CLOSE the valve from the OIT/OWS, XC-21-115. OIT/OWS mut show an OPEN (ZIO-21-115) and Close (ZIC-21-115) indication.