

SPECIFICATION MANUAL

2018 CDBG Dyersburg Sewer System Improvements Main Influent Pump Station Wet Well Rehabilitation

CDBG No.: 57942-12791

September 25, 2020

Owner:
CITY OF DYERSBURG
PUBLIC WORKS DEPARTMENT
435 HIGHWAY 51 BYPASS SOUTH
DYERSBURG, TN 38024



Civil Engineering Solutions, LLC
317 West Market Street
Dyersburg, TN 38024
731-285-1698



CLEARANCE OF LOREC NOTATIONS for P&S APPROVAL

- Project Name 2018 CDBG Dyersburg Sewer System Improvements

Contract Number 57942-12791

Agency, Date and Notation 1:

The Tennessee Historical Commission, State Historic Preservation Office in a letter dated October 16, 2018, stated "If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act.

Response to Notation 1:

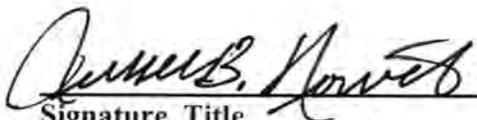
If any modifications are made to the plans or any archaeological remains are discovered during the construction phase the Tennessee Historical Commission, State Historic Preservation office will be contacted.

Agency, Date and Notation 2:

Response to Notation 2:

Agency, Date and Notation 3:

Response to Notation 3:



Signature, Title

02/18/19
Date

This form must accompany Plans and Specifications sent to ECD.

Status of Land Acquisition

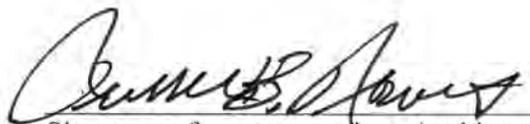
All permanent easements, land purchases, city/county/state right of ways, Department of Transportation, Corps of Engineers and railroad permits and any other land access agreements must be obtained and recorded (if applicable) with the appropriate agencies prior to ECD approval of plans and specifications.

Please check the following boxes and sign below:

- | Yes | No | N/A | |
|--------------------------|--------------------------|-------------------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | All permanent easements necessary for the construction of this project have been acquired and recorded with the appropriate agency. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | All land acquisition necessary for the construction of this project has been acquired and recorded with the appropriate agency. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | All right-of-ways, permits, and land access agreements necessary for the construction of this project have been acquired and recorded with the appropriate agency(s). |

OR

- | | | | |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | The construction of this project requires no acquisition of land, permanent easements, right-of-ways, permits or land access agreements. |
|-------------------------------------|--------------------------|--------------------------|--|


 Signature of grantee, engineer/architect,
 or project administrator

February 18, 2019

Date

**This form must be sent to ECD before we
can approve plans and specifications.**

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ADVERTISEMENT FOR BIDS

Project No. 57942-12791

City of Dyersburg, TN (Owner)

Separate sealed bids for City of Dyersburg, TN for 2018 CDBG Dyersburg Sewer System Improvements – Main Influent Pump Station Wet Well Rehabilitation will be received by City of Dyersburg, TN at the office of Public Works Building; 435 Highway 51 Bypass; Dyersburg, TN 38024 until 10 o'clock A.M., C.S.T. October 27 2020, and then at said office publicly opened and read aloud.

The Information for Bidders, Form of Bid, Form of Contract, Plans, Specifications, and Forms of Bid Bond, Performance and Payment Bond, and other contract documents may be examined at the following:

CITY OF DYERSBURG; 435 HIGHWAY 51 BYPASS SOUTH; DYERSBURG, TN 38024 WEST TN PLANS ROOM; 439 AIRWAYS BLVD; JACKSON, TN

Governor's Office of Diversity Business, (GoDBE) -TN.Gov

Copies may be obtained at the office of City of Dyersburg, Public Works Building located at 435 Highway 51 Bypass, Dyersburg, TN 38024 upon payment of \$ 50.00 for each set.

The owner reserves the right to waive any informalities or to reject any or all bids.

Each bidder must deposit with his bid, security in the amount, form and subject to the conditions provided in the Information for Bidders.

All bidders must be licensed General Contractors as required by the Contractor's Licensing Act of 1994 of the General Assembly of the State of Tennessee, and qualified for the type of construction being bid upon.

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract, Section 3, Segregated Facility, Section 109 and E.O. 11246.

No bidder may withdraw his bid within 60 days after the actual date of the opening thereof.

October 11 (Date) John Hold, Mayor; City of Dyersburg, TN

INFORMATION FOR BIDDERS

1. Receipt and Opening of Bids

The City of Dyersburg, TN _____ (herein called the "Owner), invites bids on the form attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the Owner at the office of Public Works Building; 435 Highway 51 Bypass, Dyersburg, TN 38024 until 10:00 o'clock A.M., C.S.T., October 27 , 2020, and then at said office publicly opened and read aloud. The envelopes containing the bids must be sealed, addressed to Mayor John Holden _____ at Public Works Building; 435 Highway 51 Bypass, Dyersburg, TN 38024 and designated as bid for 2018 CDBG Dyersburg Sewer System Improvements – Main Influent Pump Station Wet Well Rehabilitation _____.

The Owner may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual date of the opening thereof.

2. Preparation of Bid:

Each bid must be submitted on the prescribed form and accompanied by Certification of Bidder Regarding Equal Employment Opportunity, Certification of Bidder Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion, Certification of Bidder Regarding Section 3 and Segregated Facilities, and Drug-Free Workplace Affidavit. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures, and the foregoing Certifications must be fully completed and executed when submitted.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his/her address, the name of the project for which the bid is submitted, license number, expiration date thereof, and license classification of the contractors applying to bid for the prime contract, and for the electrical, plumbing, heating, ventilation, and air conditioning contracts, and all other information required by State law..

All bidders must be licensed General Contractors as required by the Contractor's Licensing Act of 1994 of the General Assembly of the State of Tennessee, and qualified for the type of construction being bid upon. Each bidder shall write on the outside of the envelope containing its bid: 1) its Contractor's license number; 2) that part of the classification applying to the bid. If this is not done, the bid will not be opened.

3. Subcontracts:

The bidder is specifically advised that any person, for, or other party to whom it is proposed to award a subcontract under this contract:

- a. Must be acceptable to the owner; and
- b. Must submit Certification by Proposed Subcontractor Regarding Equal Employment Opportunity, and Certification of Proposed Subcontractor Regarding Section 3 and Segregated Facilities. Approval of the proposed subcontract award cannot be given by the owner unless and until the proposed subcontractor has submitted the Certifications and/or other evidence showing that it has fully complied with any reporting requirements to which it is or was subject.

Although the bidder is not required to attach such Certifications by proposed subcontractors to his/her bid, the bidder is here advised of this requirement so that appropriate action can be taken to prevent subsequent delay in subcontract awards.

4. Telegraphic Modification:

Any bidder may modify his/her bid by telegraphic communication at any time prior to the scheduled closing time for receipt of bids provided such telegraphic communication is received by the Owner prior to the closing time, and, provided further, the Owner is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time. The telegraphic communication should not reveal the bid price but should provide the addition or subtraction or other modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modification.

5. Method of Bidding:

The Owner invites the following bid(s):

2018 CDBG Dyersburg Sewer System Improvements – Main Influent Pump Station

Wet Well Rehabilitation

6. Qualification of Bidder:

The Owner may make such investigations as s/he deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.

7. Bid Security:

Each bid must be accompanied by cash, certified check of the bidder, or a bid bond prepared on the form of bid bond attached thereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the Owner, in the amount of 5% of the bid. Such cash, checks or bid bonds will be returned to all except the three lowest bidders within three days after the opening of bids, and the remaining cash, checks or bid bonds will be returned promptly after the Owner and the accepted bidder have executed the contract, or, if no award has been made within 60 days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he/she has not been notified of the acceptance of his/her bid.

8. Liquidated Damages for Failure to Enter into Contract:

The successful bidder, upon his/her failure to refusal to execute and deliver the contract and bonds required within 10 days after she/he has received notice of the acceptance of his/her bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his/her bid.

9. Time of Completion and Liquidated Damages:

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project within Sixty (60) consecutive calendar days thereafter. Bidder must agree also to pay as liquidated damages, the sum of \$ 250.00 for each consecutive calendar day thereafter as hereinafter provided in the Supplemental General Conditions.

10. Condition of Work:

Each bidder must inform him/herself fully of the conditions relating to the construction of the project and the employment of labor thereof. Failure to do so will not relieve a successful bidder of his/her obligation to furnish all material and labor necessary to carry out the provisions of his/her contract. Insofar as possible, the contractor, in carrying out the work, must employ such methods as will not cause any interruption of or interference with the work of any other contractor.

PRE-BID MEETING:

Potential bidders are required to attend a pre-bid meeting to ensure a complete understanding of existing conditions and scope of Work. The pre-bid meeting will be conducted at the offices of Dyersburg Public Works Building, at 435 Hwy 51 Bypass, Dyersburg, TN on October 19, 2020 at 10:00 A.M., local time. Representatives of the Engineer and the Owner will be available to accompany potential bidders to the project sites for site investigations. THE OWNER RESERVES THE RIGHT TO EITHER ACCEPT OR NOT ACCEPT BIDS FROM BIDDERS NOT ATTENDING THE PRE-BID MEETING.

11. Addenda and Interpretations:

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally.

Every request for such interpretation should be in writing addressed to

Russell Norville, P.E. at Civil Engineering Solutions, LLC;
317 West Market Street; Dyersburg, Tn 38024 (email: norville@cableone.net)
 and to be given consideration must be received at least five days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed by certified mail with return receipt requested or emailed to all prospective bidders (at the respective addresses furnished for such purposes), not later than two days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda so issued shall become part of the contract documents.

12. Security for Faithful Performance:

Simultaneously with his/her delivery of the executed contract, the Contractor shall furnish a surety bond or bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the General Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the Owner.

13. Power of Attorney:

Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

14. Notice of Special Conditions:

Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

- a. Inspection and testing of materials.
- b. Insurance requirements.
- c. Wage rates.
- d. Stated allowances.

15. Laws and Regulations:

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

16. Method of Award - Lowest Qualified Bidder:

After receiving bids and determining the amount of funds estimated by the OWNER as available to finance the contract, the OWNER will award the contract to the lowest responsible bidder. The lowest responsible bidder will be determined upon the basis of the lowest base bid or lowest base bid combined with alternates (additive or deductive). If the contract is to be awarded based on the lowest base bid with alternates, alternates will be accepted in the numerical order in which they are listed in the Form of Bid.

17. Obligation of Bidder:

At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation in respect of his/her bid.

18. Safety Standards and Accident Prevention: With respect to all work performed under this contract, the Contractor shall:

- a. Comply with the safety standards provisions of applicable laws, building and construction codes and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, No. 75, Saturday, April 17, 1971.
- b. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.
- c. Maintain at his/her office or other well known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees), who may be injured on the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.

BID BOND

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

_____ as Principal, and _____

as Surety, are hereby held and firmly bound unto City of Dyersburg, Tennessee

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 City of Dyersburg, Tennessee a certain Bid, attached hereto

and hereby made a part hereof to enter into a contract in writing for the

2018 CDBG Dyersburg Sewer System Improvements – Main Influent Pump Station Wet Well Rehabilitation

NOW, THEREFORE,

- (a) If said Bid shall be rejected, or in the alternate.
- (b) If said Bid shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) 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 Bid, 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 an extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hand 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.

_____(L.S.)

Principal

Surety

By: _____

SEAL

BID FOR UNIT PRICE CONTRACTS

Place _____

Date _____

Project No. 57942-12791

Proposal of _____ (hereinafter called "Bidder")¹ a corporation, organized and existing under the laws of the State of _____, partnership, or an individual doing business as _____.

To the City of Dyersburg, Tennessee (hereinafter called "Owner")

Gentlemen:

The Bidder, in compliance with your invitation for bids for the construction of a
2018 CDBG Dyersburg Sewer System Improvements – Main Influent Pump Station Wet Well Rehabilitation

_____,
having examined the plans and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this proposal is a part.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete the project within sixty (60) consecutive calendar days thereafter as stipulated in the specifications. Bidder further agrees to pay as liquidated damages the sum of \$ 250.00 for each consecutive calendar day thereafter as hereinafter provided in Paragraph 3.c. of the Supplemental General Conditions.

¹ _____
Insert corporation, partnership or individual as applicable.

Bidder acknowledges receipt of the following addendum:

Bidder agrees to perform all the work described in the specifications and shown on the plans, for the following unit prices:

Base Bid

Item #	Description	Est. Qty.	Unit	Unit Price	Total Price
1	Wet well rehabilitation (wet well dimensions = 16'x25'x25' deep) including removal of existing vent pipe and enlarging hole in top of wetwell for secondary access point, scraping, cleaning, pressure washing, repair of wet well structural integrity, application of interior protective coating (250 mils of Epoxy Resin liner, replacement of PVC vent pipe cleaning and other related work.	1	LS		
2	Allowance for Flow Control/Bypass Pumping (line item to be paid based on invoices from bypass pumping contractor/vendor)	1	LS	\$12,000	\$12,000
Total Amount Bid					

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

Dollars)

Alternate NO. 1:

An alternate bid is requested in case the interior walls of the wetwell are in acceptable condition as determined by the City and Engineer to warrant a thinner epoxy lining system.

Item #	Description	Est. Qty.	Unit	Unit Price	Total Price
1A	Wet well rehabilitation (wet well dimensions = 16'x25'x25' deep) including removal of existing vent pipe and enlarging hole in top of wetwell for secondary access point, scraping, cleaning, pressure washing, repair of wet well structural integrity, application of interior protective coating (125 mils of Epoxy Resin liner, replacement of PVC vent pipe cleaning and other related work.	1	LS		
Total Amount Bid					

(Amount for item Bid Item No. 1A is to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

Dollars)

(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of 60 days after the scheduled closing time for receiving bids.

Upon receipt of written notice of the acceptance of this bid, bidder will execute the formal contract attached within 10 days and deliver a Surety Bond or Bonds as required by Article 5 of the General Conditions. The bid security attached in the sum of

(\$ _____) is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

Respectfully submitted:

By: _

(Title)

(SEAL - if bid is by a corporation)

CERTIFICATION OF BIDDER REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

INSTRUCTIONS

This certification is required pursuant to 24.CFR Section 24.510(b). It shall be completed, signed and submitted as part of the bid proposal.

1. By signing and submitting this proposal, the prospective lower-tier participant certifies that neither it, its principals nor affiliates, is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. Further, the Participant provides the certification set out below:
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that an erroneous certification was rendered, in addition to other remedies available to the Federal Government, the Department or agency with which this transaction originated may pursue available remedies.
3. Further, the Participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the Participant learns that this certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. By submitting this proposal, it is agreed that should the proposed covered transaction be entered into, the Participant will not knowingly enter into any lower-tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction unless authorized by the agency with which this transaction originated.
5. It is further agreed that by submitting this proposal, the Participant will include this Certification, without modification, in all lower-tier covered transactions and in all solicitations for lower-tier covered transactions.

Contractor Name and Title _____ Date _____

Signature _____ Address _____

City _____ State _____ Zip _____

NON-CERTIFICATION:

As the prospective lower-tier participant, I am unable to certify to statements in this Certification as explained in the attachment to this proposal.

Contractor Name and Title _____ Date _____

Signature _____ Address _____

City _____ State _____ Zip _____

The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

This form must be submitted to the State with the bid tabulations.

CERTIFICATION OF BIDDER REGARDING EQUAL EMPLOYMENT OPPORTUNITY

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F. R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.

CERTIFICATION BY BIDDER

Name and Address of Bidder *(include Zip Code)*:

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.

Yes No

2. Compliance reports were required to be filed in connection with such contract or subcontract.

Yes No

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100.

Yes No None Required

4. Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

Yes No

NAME AND TITLE OF SIGNER *(Please type)*

SIGNATURE

DATE

**CERTIFICATION OF BIDDER REGARDING USE
OF
FEMALE/MINORITY SUBCONTRACTORS**

INSTRUCTIONS

This certification is required for the contractor to demonstrate that when subcontractors are to be used on this project, an attempt will be made to utilize female/minority owned firms.

Documentation must be on file to show who has been contacted.

CERTIFICATION BY BIDDER

Name and Address of Bidder (include Zip Code):

I, _____, certify that every attempt was made to utilize female/minority contractors on this project.

Name and Title of Signer

Signature

Date

CERTIFICATION OF BIDDER REGARDING SECTION 3 AND SEGREGATED FACILITIES

Name of Prime Contractor

Project Name & Number

The undersigned hereby certifies that

- (a) Section 3 provisions are included in the Contract.
- (b) If contract equals or exceeds \$100,000, HUD form 60002 will be submitted with the final pay estimate.
- (c) No segregated facilities will be maintained.

Name & Title of Signer (Print or Type)

Signature

Date

DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF _____
COUNTY OF _____

The undersigned, principal officer of _____,
an employer of five (5) or more employees contracting with _____
government to provide construction services, hereby states under oath as follows:

- 1. The undersigned is a principal officer of _____
(hereinafter referred to as the "Company"), and is duly authorized to execute
this Affidavit on behalf of the Company.
- 2. The Company submits this Affidavit pursuant to T.C.A. § 50-9-113, which
requires each employer with no less than five (5) employees receiving pay
who contracts with the state or any local government to provide construction
services to submit an affidavit stating that such employer has a drug-free
workplace program that complies with Title 50, Chapter 9, of the *Tennessee
Code Annotated*.
- 3. The Company is in compliance with T.C.A. § 50-9-113.

Further affiant saith not.

Principal Officer

STATE OF _____
COUNTY OF _____

Before me personally appeared _____, with whom I am
personally acquainted (or proved to me on the basis of satisfactory evidence), and who
acknowledged that such person executed the foregoing affidavit for the purposes therein
contained.

Witness my hand and seal at office this _____ day of _____, 20__.

Notary Public

My commission expires: _____

CERTIFICATION BY PROPOSED SUBCONTRACTOR REGARDING EQUAL EMPLOYMENT OPPORTUNITY

NAME OF PRIME CONTRACTOR

PROJECT NUMBER

INSTRUCTIONS

This certification is required pursuant to Executive Order 11246 (30 F. R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the subcontractor has not filed a compliance report due under applicable instructions, such subcontractor shall be required to submit a compliance report before the owner approves the subcontract or permits work to begin under the subcontract.

SUBCONTRACTOR'S CERTIFICATION

NAME AND ADDRESS OF SUBCONTRACTOR *(include ZIP Code)*:

1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.

Yes No

2. Compliance reports were required to be filed in connection with such contract or subcontract.

Yes No

3. Bidder has filed all compliance reports due under applicable instructions, including SF-100.

Yes No None Required

4. Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

Yes No

NAME AND TITLE OF SIGNER *(Please type)*

SIGNATURE

DATE

**CERTIFICATION OF PROPOSED SUBCONTRACTOR
REGARDING SECTION 3 AND SEGREGATED
FACILITIES**

Name of Subcontractor

Project Name & Number

The undersigned hereby certifies that

- (a) Section 3 provisions are included in the Contract;
- (b) If contract equals or exceeds \$100,000, HUD form 60002 will be submitted with the final pay estimate.
- (c) No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964.

Name & Title of Signer (Print or Type)

Signature

Date

**IRAN DIVESTMENT
ACT**

In compliance with the Iran Divestment Act (State of Tennessee 2016, Public Chapter No. 817), which became effective on July 1, 2016, certification is required of all bidders on contracts over \$1,000.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party hereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to T.C.A. § 12-12-106.

I affirm, under the penalties of perjury, this statement to be true and correct.

Date	Signature of Bidder
	Company

A bid shall not be considered for award nor shall award be made where the foregoing certification has been complied with; provided, however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefor. The **City/County of** _____ may award a bid to a bidder who cannot make the certification, on case-by-case basis, if:

1. The investment activities in Iran were made before July 1, 2016, the investment activities in Iran have not been expanded or reviewed on or after July 1, 2016, and the person has adopted, publicized, and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
2. The **City/County of** _____ makes a determination that the goods or services are necessary for the **City/County of** _____ to perform its functions and that, absent such an exemption, the political subdivision will be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.



Department of
General Services

Central
Procurement Office

July 15, 2016

NOTICE

Tenn. Code Ann. § 12-12-106 requires the chief procurement officer to publish, using credible information freely available to the public, a list of persons it determines engage in investment activities in Iran, as described in § 12-12-105.

For these purposes, the State intends to use the attached list of “Entities Ineligible to Contract with the State of South Carolina or any Political Subdivision of the State per the Iran Divestment Act of 2014, S.C. Code Ann. §§ 11-57-10, et. seq.”

While inclusion on this list would make a person ineligible to contract with the state of Tennessee, if a person ceases its engagement in investment activities in Iran, it may be removed from the list.

If you feel as though you have been erroneously included on this list please contact the Central Procurement Office at CPO.Website@tn.gov.

List Date: July 7, 2017

1. Abadan Petrochemical Co.
2. Aban Offshore Ltd.
3. Anton Oilfield Services Group
4. Arak Petrochemical
5. Arvandan Oil & Gas
6. Behran Oil Co.
7. Bharat Petroleum Corporation Ltd.
8. China International United Petroleum & Chemical So., Ltd. (Unipet)
9. China National Offshore Oil Corp
10. China National Petroleum Corp (CNPC)
11. China National United Oil Corp.
12. China Petroleum & Chemical Corp.
13. Cosmo Energy Holdings Co. Limited
14. Daelim Industrial
15. Daewoo Engineering & Construction
16. Enel Spa
17. Eni Spa
18. Esfahan Oil Refining Co.
19. Essar Oil Ltd.
20. Fanavaran Petrochemical Co.
21. Farabi Petrochemical Co.
22. Formosa Petrochemical Corp.
23. Gazprom OAO
24. Gubre Fabrikalari T.A.S.
25. Hellenic Petroleum S.A.
26. Hindustan Petroleum Corp Ltd.
27. Hyundai Heavy Industries.
28. Idemitsu Kosan Co. Ltd.
29. Indian Oil Corporation Ltd.
30. Inpex Corporation
31. Japan Drilling Co., Ltd.
32. Japan Petroleum Exploration Co., Ltd.
33. JXTG Holdings, Inc.
34. Khark Petrochemical.
35. Koc Holding A.S.
36. Korea Gas Corp.
37. Linde AG.
38. Maire Tecnimont S.p.A.
39. Mangalore Refinery & Petrochemicals Ltd.
40. Marubeni Corporation
41. Mitsubishi Materials Corp.
42. Mitsui & Co. Ltd.
43. Naftiran Intratrade Company
44. National Iranian Oil Co.
45. National Iranian South Oil Co.
46. National Iranian Tanker Co.
47. National Shipping Co. of Saudi Arabia
48. North Drilling

49. Oil & Natural Gas Corporation Ltd.
50. Oil India Ltd.
51. Oil Industry Investment Co.
52. ONGC Videsh Ltd. (OVL)
53. Pardis Petrochemical Co.
54. Pars Oil Co.
55. Parsian Oil and Gas Development Co.
56. Petrochemical Industries Investment Co.
57. Petrochemical Transport Co.
58. PetroChina Co. Ltd.
59. PJSC Lukoil
60. Polskie Gornictwo Naftowe i Gazownictwo SA
61. Royal Dutch Shell Plc.
62. Sadid Pipe & Equipments Co.
63. Saras Raffinerie Sarde SPA
64. Sepehr Energy
65. Shiraz Petrochemical Co.
66. Showa Shell Sekiyu K K
67. Sinopec Group.
68. Sk Holdings Co. Ltd.
69. SK Innovation
70. Tabriz Oil Refining Company
71. Total S.A.
72. Toyo Engineering Corporation
73. Turkiye Petrol Rafinerileri AS
74. Zhuh
75. Ai Zhenrong Company

WAGE RATE DETERMINATION

Appropriate Wage Rates shall be inserted here.



MAR 22 2013

MEMORANDUM NO. 213

TO: ALL CONTRACTING AGENCIES OF THE FEDERAL
GOVERNMENT AND THE DISTRICT OF COLUMBIA

FROM: 
MARY BETH MAXWELL
Acting Deputy Administrator

SUBJECT: Application of the Davis-Bacon and Related Acts requirement that wage rates for additional classifications, when “conformed” to an existing wage determination, bear a “reasonable relationship” to the wage rates in that wage determination

This Memorandum is notification from the Department of Labor’s Wage and Hour Division (WHD) of the proper application of the Davis-Bacon and Related Acts (DBRA) requirements for wage rates for additional classifications that are “conformed” to an existing wage determination by agency contracting officers. The regulations at 29 C.F.R. § 5.5(a)(1)(ii)(A) provide that contracting officers shall approve an additional classification and its proposed wage rate in conformance with an existing wage determination only when the work to be performed by the proposed classification is not performed by a classification in the wage determination and the proposed wage rate bears a “reasonable relationship” to the wages rates in the wage determination. Although this Memorandum primarily focuses on the “reasonable relationship” requirement, it is essential at the threshold to reiterate that a conformance is not appropriate when the work of the proposed classification is already performed by a classification on the wage determination. The conformance process is narrow in scope and has the limited purpose of establishing a new classification when it is necessary to do so because work needed to perform the contract is not performed by an existing classification. *See Cambridge Plaza*, ARB Case No. 07-102 (ARB Oct. 29, 2009). Accordingly, the WHD will not add a new classification through a conformance action unless the first criterion for issuance of a conformance is satisfied, i.e., the proposed work in question is not performed by any classification in the existing wage determination. 29 C.F.R. § 5.5(a)(1)(ii)(A)(1).

In those circumstances in which the duties of the proposed classification are not performed by any classification in the existing wage determination, the WHD will consider whether the proposed wage rate bears a “reasonable relationship” to the wage rates in the wage determination. In the past, WHD has generally approved proposed wage rates for a conformed skilled craft and a power equipment operator when such rates were not less than the rate for the lowest classification in the respective category on the contract wage determination. The practice of using the lowest rate in the relevant category as a benchmark also occurred on occasion with laborers and truck drivers. In keeping with the remedial purpose of the DBRA and the governing

regulations, the wage rate of the lowest skilled craft, laborer, power equipment operator, or truck driver classification on the contract wage determination has no longer been an automatic benchmark when reviewing conformance requests. WHD's approach of not using the lowest wage rate as a benchmark has been progressively implemented over the last year.

The Conformance Process

In accordance with 29 C.F.R. § 5.5(a)(1)(ii)(A), the contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and a wage rate (including fringe benefits) for the classification only when the following criteria have been met:

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

Further, if the contractor, the laborers or mechanics (if known) to be employed in the classification or their representatives, and the contracting agency agree on the classification and wage rate proposed, a report of the action taken is sent by the contracting officer to the Administrator of WHD for approval, denial, or modification. The Administrator (or an authorized representative) shall respond within 30 days of receipt, or the contracting officer will be notified that more time is necessary. *See* 29 C.F.R. § 5.5(a)(1)(ii)(B). In the event that the contractor, the laborers or mechanics (if known) to be employed in the classification or their representatives, and the contracting agency do not agree on the classification and wage rate proposed, the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator of WHD for determination. The Administrator (or an authorized representative) shall issue a determination within 30 days of receipt and so advise the contracting officer, or the contracting officer will be notified that more time is necessary. *See* 29 C.F.R. § 5.5(a)(1)(ii)(C).

"Reasonable Relationship"

WHD previously typically approved conformance requests from contracting officers for wage rates (including fringe benefits) for skilled classifications and power equipment operators by automatically using as a benchmark the lowest rate for a skilled classification or power equipment operator, respectively, in the applicable wage determination. The practice of using the lowest rate in the relevant category as a benchmark also occurred on occasion with laborers and truck drivers. WHD has concluded, however, that it better reflects the regulatory requirement that "the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination" to consider the entirety of the rates within the relevant category on the wage determination and to not generally use as a benchmark the lowest rate within that category. The regulation at 29 C.F.R. §

5.5(a)(1)(ii)(A)(3) requires that the proposed wage rate bear a reasonable relationship to the “wage rates” on the wage determination and not to a particular rate or the lowest rate.

The category in which the requested additional classification falls is relevant to the reasonable relationship analysis. As background, classifications in wage determinations fall into four general categories: skilled crafts, laborers, power equipment operators, and truck drivers. To determine a “reasonable relationship,” the requested additional classification is compared to the classifications on the applicable wage determination within the same category. A proposed skilled craft classification is compared to skilled classifications in the wage determination; a proposed laborer classification is compared to existing laborer classifications; a proposed power equipment operator classification is compared to existing power equipment operator classifications; and a proposed truck driver classification is compared to existing truck driver classifications. See *Mistick Construction*, ARB Case No. 02-004 (June 24, 2003); *Tower Construction*, WAB Case No. 94-17 (Feb. 28, 1995).¹ Thus, when considering a conformance request for a skilled classification, WHD generally considers the entirety of the rates for the skilled classifications on the applicable wage determination and looks to where the proposed wage rate falls within the rates listed on the wage determination. Occasionally, however, a wage determination may contain some wage rates for laborer classifications that are higher than some wage rates for the skilled classifications or power equipment operators (likely because the laborers’ rates reflect union prevailing rates and the skilled crafts’ or power equipment operators’ rates reflect weighted average prevailing rates). On such occasions, the contracting officer should look to those skilled classifications whose rates are higher than the laborer classifications’ rates. See *M.Z. Contractors Co.*, WAB Case No. 92-06 (Aug. 25, 1992). If, however, most of the skilled classifications’ or power equipment operators’ rates are lower than the laborer classifications’ rates, then it may be reasonable to propose a rate that reflects the skilled classifications’ rates even if they are lower than the laborer classifications’ rates.

Additionally, whether the wage rates in the applicable category (skilled craft, laborer, power equipment operator, truck driver) in the wage determination are predominantly union prevailing wage rates or predominantly weighted average prevailing wage rates should be considered when proposing rates for an additional classification. For example, if a wage determination contains predominantly union prevailing wage rates for skilled classifications, it typically would be appropriate to look to the union sector skilled classifications in the wage determination and the rates for those classifications when proposing a wage rate for the additional classification. Conversely, if a wage determination contains predominantly weighted average prevailing wage rates for skilled classifications, it typically would be appropriate to look to the weighted average/non-union sector skilled classifications in the wage determination and the rates for those classifications when proposing a wage rate for the additional classification. If the wage rates in the applicable category are roughly half union prevailing rates and half weighted average prevailing rates, it would typically be appropriate to look to the lowest union rate and the highest weighted average rate (assuming the union rates are higher than the weighted average rates) when proposing a wage rate.

¹ Copies of Administrative Review Board (ARB) and Wage Appeals Board (WAB) decisions can be obtained from: www.oalj.dol.gov/libdba.htm.

While the majority of conformance requests are within the skilled classification category, the governing regulations and the principles outlined in this Memorandum apply to the other categories of workers – laborers, power equipment operators, and truck drivers. To meet the “reasonable relationship” test for a conformed power equipment operator or truck driver classification, the proposed wage rate should bear a reasonable relationship to the entirety of rates within the respective classification, and in particular to the union or weighted average rates in the classification (assuming union or weighted average rates prevail for the classification). When a conformance for a laborer classification is requested, WHD generally continues to use the common laborer rate already existing in the wage determination as a benchmark for the proposed rate.

Each conformance request and corresponding wage determination involves particular circumstances and therefore should be evaluated as such. The full range of wage rates on the wage determination for the appropriate category should be reviewed in the manner discussed above. When seeking conformed classifications and wage rates, the contractor and the contracting officer should not rely on a wage determination or conformance granted to another party regardless of the similarity of the work in question. *See, e.g., Inland Waters Pollution Control, Inc.*, WAB Case No. 94-12 (Sept. 30, 1994). Moreover, the contractor and the contracting officer should not prospectively rely on WHD’s prior approval of rates for application to a contract performed at the same location. *See E&M Sales, Inc.*, WAB Case No. 91-17 (Oct. 4, 1991). Although atypical, use of the “lowest skilled” rate may of course be appropriate when that rate in fact bears a reasonable relationship to the wage rates contained in the wage determination for the appropriate category. *See, e.g., Tower Construction*, WAB Case No. 94-17 (Feb. 28, 1995) (conformed wage rate, which equaled lowest skilled rate on wage determination, was reasonable).

In sum, contracting agencies should take the following steps when proposing a wage rate for a classification to be conformed to an existing wage determination:

- First, the contracting agency should determine the category (skilled crafts, laborers, power equipment operators, or truck drivers) of the classification which is being conformed.
- Second, the contracting agency should determine for that category whether union or weighted average/non-union sector rates prevail in the existing wage determination.
- Third, after reviewing the entirety of the rates within the appropriate sector in the applicable category, the contracting agency should determine a rate that bears a reasonable relationship to those rates on the wage determination.
- Fourth, the contracting agency should determine whether any of the considerations identified in this Memorandum apply (or whether any other relevant considerations apply). For example, if the classification being conformed is a skilled classification and some of the wage rates for skilled classifications in the wage determination are lower than the rates for laborer classifications, then the contracting agency should use those existing skilled classification rates that are higher than the laborer rates to determine the

proposed rate. And if the classification which is being conformed is a laborer classification, the proposed wage rate should generally use the existing common laborer wage rate as a benchmark.

Conclusion

The WHD Administrator has historically maintained broad discretion under the regulations to make determinations regarding proposed wage rates for additional classifications that are conformed to existing wage determinations. This broad discretion has been confirmed by the ARB and its predecessors, as illustrated by the decisions cited in this Memorandum, among others. In exercising that discretion, WHD ensures that wage rates (including fringe benefits) for the classification to be conformed bear a reasonable relationship to the range of rates for the classifications in the wage determination in the same category (skilled classifications, power equipment operators, laborers, and truck drivers), and not automatically to the lowest rate in the applicable category. Consistent with the governing regulations, contracting agencies should ensure that they request wage rates (including fringe benefits) for additional classifications in accordance with the principles set forth in this Memorandum. By following the guidance in this AAM, contracting agencies and contractors will benefit by receiving approvals from WHD that ensure consistency in conformed wage rates and increase efficiencies in government.

In conjunction with the guidance provided in this AAM, WHD has posted on www.dol.gov/whd/govcontracts/dbra.htm a series of frequently asked questions that include examples which will provide additional guidance regarding the reasonable relationship requirement in the conformance process. WHD also is updating its Prevailing Wage Resource Book and will provide compliance assistance on DBRA conformances at future Prevailing Wage Conferences. In addition, WHD's Branch of Construction Wage Determinations is available to assist with any questions.

LABORER: Common or General.....\$ 9.05	1.57
LABORER: Flagger.....\$ 10.50	0.00
LABORER: Pipelayer.....\$ 12.59	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....\$ 16.76	0.00
TRUCK DRIVER: Dump Truck.....\$ 11.61	0.81

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

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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) (ii)).

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

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

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial

contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write 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 the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by 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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

..

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 20__, by and between _____, herein called "Owner", acting herein through its _____, and _____,

STRIKE OUT (a corporation) (a partnership)
INAPPLICABLE (an individual doing business as _____)

TERMS
of _____, County of _____, and State of _____, hereinafter called "Contractor".

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby agrees with the OWNER to commence and complete the construction described as follows:

hereinafter called "the project", for the sum of _____ Dollars (\$ _____)

and all extra work in connection therewith, under the terms as stated in the General and Special Conditions of the Contract; and at this (its or their) own property cost and expense to furnish all the materials , supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, Supplemental General Conditions and Special Conditions of the Contract, the plans, which include all maps, plats, blue prints, and other drawings and printed or written explanatory matter thereof, the specifications and contract documents therefore as prepared by _____, herein entitled "the Architect/Engineer", and as enumerated in Paragraph 1 of the Supplemental General Conditions, all of which are made a part hereof and collectively evidence and constitute the contract.

The Contractor hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" of the Owner and to fully complete the project within sixty (60) consecutive calendar days thereafter. The Contractor further agrees to pay, as liquidated damages, the sum of \$ 250.00 for each consecutive calendar day thereafter as hereinafter provided in Paragraph 3 of the Supplemental General Conditions.

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the contract, subject to additions and deductions, as provided in the General Conditions of the Contract, and to make payments on account thereof as provided in Paragraph 3, "Payments to Contractor", of the Supplemental General Conditions.

IN WITNESS WHEREOF, the parties to these presents have executed this contract in six (6) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

(Seal)

ATTEST:

(Owner)

(Secretary)

By: _____

(Witness)

(Title)

(Seal)

(Contractor)

(Secretary)

By: _____

(Witness)

(Title)

(Address and Zip Code)

NOTE: Secretary of the Owner should attest. If Contractor is a corporation, Secretary should attest.

BONDING AND INSURANCE

1. This Attachment sets forth bonding and insurance requirements for grants. No other bonding and insurance requirements shall be imposed other than those normally required by the grantee .
2. Except as otherwise required by law, a grant that requires the contracting (or subcontracting) for construction or facility improvements shall provide for the grantee to follow its own requirements relating to bid guarantees, performance bonds, and payment bonds unless the construction contract or subcontract exceeds \$150,000 (See 2 CFR 200.88). For those contracts or subcontracts exceeding \$150,000, the Federal agency may accept the bonding policy and requirements of the grantee provided the Federal agency has made a determination that the Government's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:
 - (a) A bid guarantee from each bidder equivalent to five percent 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 bid, execute such contractual documents as may be required within the time specified.
 - (b) A performance bond on the part of the contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.
 - (c) A payment bond on the part of the contractor for 100 percent of the contract 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 contract.
3. Where the Federal Government guarantees or insures the repayment of money borrowed by the grantee, the Federal agency, at its discretion, may require adequate bonding and insurance if the bonding and insurance requirements of the grantee are not deemed adequate to protect the interest of the Federal Government.
4. Where bonds are required in the situations described above, the bonds shall be obtained from companies holding certificates of authority as acceptable sureties (31 CFR 223).

NOTE: AIA Document A311 is acceptable for use as Performance and Payment Bonds.

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, _____, the duly authorized and acting legal representative of _____ do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Date: _____

<p>Certification of Compliance with Minimum Standards for Accessibility by the Physically Handicapped</p>
--

Contract No. _____

Project Name: _____

Address: _____

Pursuant to the requirements of the Architectural Barriers Act of 1968, 42 USC 4151, and the regulations issued subsequent thereto, the undersigned certifies that the design of the above-mentioned project is in conformance with the minimum standards contained in the American Standard Specifications for Making Buildings and Facilities Accessible To and Usable by the Physically Handicapped, Number A-117.1R-1971 (as modified by 41 CFR 101-19.603).

Professional Registrant for the Project: _____

Legal Name and Address: _____

Registration Number: _____

Name: _____

(Signature)

Date: _____

Local Government Official: _____

(Signature)

Community Development Block Grant Program
GENERAL CONDITIONS

1. Contract and Contract Documents

The project to be constructed and pursuant to this contract will be financed with assistance from the Tennessee Community Development Block Grant Program and is subject to all applicable Federal laws and regulations.

The Plans, Specifications and Addenda, hereinafter enumerated in Paragraph 1 of the Supplemental General Conditions shall form part of this Contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The table of contents, titles, headings, running headlines and marginal notes contained herein and in said documents are solely to facilitate reference to various provisions of the Contract Documents and in no way affect, limit or cast light on the interpretation of the provisions to which they refer.

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GENERAL CONDITIONS

ARTICLE 1--DEFINITIONS

Wherever used in these General Conditions or in the other Contract

Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bidding Requirements or the Contract Documents.

1.2. *Agreement*--The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3. *Application for Payment*--The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

1.5. *Bid*--The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.6. *Bidding Documents*--The advertisement or invitation to Bid, instructions to bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7. *Bidding Requirements*--The advertisement or invitation to Bid, instructions to bidders, and the Bid form.

1.8. *Bonds*--Performance and Payment bonds and other instruments of security.

1.9. *Change Order*--A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

1.10. *Contract Documents*--The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders and ENGINEER's written interpretations and classifications issued pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.

1.11. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).

1.12. *Contract Times*--The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13.

1.13. *CONTRACTOR*--The person, firm or corporation with whom the OWNER has entered into the Agreement.

1.14. *defective*--An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

1.15. *Drawings*--The drawings which show the scope, extent and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

1.16. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.17. *ENGINEER*--The person, firm or corporation named as such in the Agreement.

1.18. *ENGINEER's Consultant*--A person, firm, or corporation having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

1.19. *Field Order*--A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

1.20. *General Requirements*--Sections of Division 1 of the Specifications.

1.21. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

1.22. *Laws and Regulations: Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

1.23. *Liens*--Liens, charges, security interests or encumbrances upon real property or personal property.

1.24. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.25. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.26. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.27. *OWNER*--The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

1.28. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

1.29. *PCBs*--Polychlorinated biphenyls.

1.30. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

1.31. *Project*--The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.32. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

1.33. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the site or any part thereof.

1.34. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

1.35. *Shop Drawings*--All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

1.36. *Specifications*--Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.37. *Subcontractor*--An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.38. *Substantial Completion*--The Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.39. *Supplementary Conditions*--The part of the Contract Documents which amends or supplements these General Conditions.

1.40. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

1.41. *Underground Facilities*--All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.42. *Unit Price Work*--Work to be paid for on the basis of unit prices.

1.43. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.44. *Work Change Directive*--A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in paragraph 10.2.

1.45. *Written Amendment*--A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

ARTICLE 2--PRELIMINARY MATTERS

Delivery of Bonds:

2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds

as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

Copies of Documents:

2.2. OWNER shall furnish to CONTRACTOR up to ten copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Times; Notice to Proceed:

2.3. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

Starting the Work:

2.4. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

Before Starting Construction:

2.5. Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

2.6. Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for review:

2.6.1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2.6.2. a preliminary schedule for Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal;

2.6.3. a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.7. Before any Work at the site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with paragraphs 5.4, 5.6 and 5.7.

Preconstruction Conference:

2.8. Within twenty days after the Contract Times start to run, but before any Work at the site is started, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.6, procedures for handling Shop Drawings and other submittals, processing Applications for Payment and maintaining required records.

Initially Acceptable Schedules:

2.9. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.6. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until the schedules are submitted to and acceptable to ENGINEER as provided below. The progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on ENGINEER responsibility for the sequencing, scheduling or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefore. CONTRACTOR's schedule of Shop Drawing and Sample submissions will be acceptable to ENGINEER as providing a workable arrangement for reviewing and processing the required submittals. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3--CONTRACT DOCUMENT: INTENT,
AMENDING, REUSE

Intent:

3.1. The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe Work, materials or equipment, such words or phrases shall be interpreted in accordance with that meaning. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 9.4.

3.3. Reference to Standards and Specifications of Technical Societies; Reporting and Resolving Discrepancies:

3.3.1. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

3.3.2. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, CONTRACTOR shall report it to ENGINEER in writing at once, and, CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

3.3.3. Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and:

3.3.3.1. the provisions of any such standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

3.3.3.2. the provisions of any such Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, ENGINEER or any of ENGINEER's Consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.13 or any other provision of the Contract Documents.

3.4. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved" or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the

design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

Amending and Supplementing Contract Documents:

3.5. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.5.1. a formal Written Amendment.

3.5.2. a Change Order (pursuant to paragraph 10.4), or

3.5.3. a Work Change Directive (pursuant to paragraph 10.1).

3.6. In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.6.1. a Field Order (pursuant to paragraph 9.5),

3.6.2. ENGINEER's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or

3.6.3. ENGINEER's written interpretation or clarification (pursuant to paragraph 9.4).

Reuse of Documents:

3.7. CONTRACTOR, and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

ARTICLE 4--AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

Availability of Lands:

4.1. OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a correct statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's lien against such lands in accordance with applicable Laws and Regulations. OWNER shall identify any encumbrances or restrictions not of general application but

specifically related to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR and OWNER are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in OWNER's furnishing these lands, rights-of-way or easements, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2. *Subsurface and Physical Conditions:*

4.2.1. *Reports and Drawings:* Reference is made to the Supplementary Conditions for identification of:

4.2.1.1. *Subsurface Conditions:* Those reports of explorations and tests of subsurface conditions at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents; and

4.2.1.2. *Physical Conditions:* Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by ENGINEER in preparing the Contract Documents.

4.2.2. *Limited Reliance by CONTRACTOR Authorized: Technical Data:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data." CONTRACTOR may not rely upon or make any claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

4.2.2.1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto, or

4.2.2.2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

4.2.2.3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.2.3. *Notice of Differing Subsurface or Physical Conditions:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the site that is uncovered or revealed either:

4.2.3.1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is materially inaccurate, or

4.2.3.2. is of such a nature as to require a change in the Contract Documents, or

4.2.3.3. differs materially from that shown or indicated in the Contract Documents, or

4.2.3.4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then

CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.23), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such conditions or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.2.4. *ENGINEER's Review:* ENGINEER will promptly review the pertinent conditions, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

4.2.5. *Possible Contract Documents Change:* If ENGINEER concludes that a change in the Contract Documents is required as a result of a condition that meets one or more of the categories in paragraph 4.2.3., a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

4.2.6. *Possible Price and Times Adjustments:* An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of such uncovered or revealed condition causes an increase or decrease in CONTRACTOR's cost of, or time required for performance of, the Work; subject, however, to the following:

4.2.6.1. such condition must meet any one or more of the categories described in paragraphs 4.2.3.1 through 4.2.3.4, inclusive;

4.2.6.2. a change in the Contract Documents pursuant to paragraph 4.2.5 will not be an automatic authorization of nor a condition precedent to entitlement to any such adjustment;

4.2.6.3. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.10 and 11.9; and

4.2.6.4. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Times if;

4.2.6.4.1. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a bid or becoming bound under a negotiated contract; or

4.2.6.4.2. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

4.2.6.4.3. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.2.3.

If OWNER and CONTRACTOR are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefore as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.3. Physical Conditions--Underground Facilities:

4.3.1. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

4.3.1.2. The cost of all of the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

4.3.2. *Not Shown or Indicated:* If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.23), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the Underground Facility. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document such consequences. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or the amount or length of any such adjustment in Contract Price or Contract Times, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages incurred or sustained by CONTRACTOR on or in connection with any other project or anticipated project.

Reference Points:

4.4. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

4.5. Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material:

4.5.1. OWNER shall be responsible for any Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. OWNER shall not be responsible for any such materials brought to the site by CONTRACTOR, Subcontractor, Suppliers or anyone else for whom CONTRACTOR is responsible.

4.5.2. CONTRACTOR shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify OWNER and ENGINEER (and thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such hazardous condition or take corrective action, if any. CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by CONTRACTOR to be resumed, either party may make a claim therefore as provided in Articles 11 and 12.

4.5.3. If after receipt of such special written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefore as provided in Articles 11 and 12. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

4.5.4. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents, other consultants and subcontractors of each and any of them from and against all

claims, costs, losses and damages arising out of or resulting from such hazardous condition, provided that: (i) any such claim, cost, loss or damage is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting there from, and (ii) nothing in this subparagraph 4.5.4 shall obligate OWNER to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.

4.5.5. The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

ARTICLE 5--BONDS AND INSURANCE

Performance, Payment and Other Bonds:

5.1. CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

5.2. If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within ten days thereafter substitute another Bond and surety, both of which must be acceptable to OWNER.

5.3. Licensed Sureties and Insurers; Certificates of Insurance:

5.3.1. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain in accordance with paragraph 5.4. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is

required to purchase and maintain in accordance with paragraphs 5.6 and 5.7 hereof.

CONTRACTOR's Liability Insurance:

5.4. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed or furnished by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.4.1. claims under workers' compensation, disability benefits and other similar employee benefit acts;

5.4.2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.4.3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

5.4.4. claims for damages insured by customary personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5.4.5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting there from; and

5.4.6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The policies of insurance so required by this paragraph 5.4 to be purchased and maintained shall:

5.4.7. with respect to insurance required by paragraphs 5.4.3. through 5.4.6 inclusive, include as additional insured (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insured, and include coverage for the respective officers and employees of all such additional insured;

5.4.8. include the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

5.4.9. include completed operations insurance;

5.4.10. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.12, 6.16 and 6.31 through 6.33;

5.4.11. contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.3.2 will so provide);

5.4.12. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective* Work in accordance with paragraph 13.12; and

5.4.13. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

OWNER's Liability Insurance:

5.5. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.4, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

Property Insurance:

5.6. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

5.6.1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

5.6.2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work and Work in transit and shall insure against at least the following perils fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils as may be specifically required by the Supplementary Conditions;

5.6.3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

5.6.4. cover materials and equipment stored at the site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER; and

5.6.5. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.

5.7. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

5.8. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained by OWNER in accordance with paragraphs 5.6 and 5.7 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least thirty days' prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.11.

5.9. OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR, Subcontractors or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount, will be borne by CONTRACTOR, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.10. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraphs 5.6 or 5.7, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

5.11. Waiver of Rights:

5.11.1. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraphs 5.6 and 5.7 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, employees and agents for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds under such policies for losses and damages so caused. None of the above waivers shall extend to the

rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2. In addition, OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees and agents of any of them, for:

5.11.2.1. loss due to business interruption, loss of use or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of or resulting from fire or other peril, whether or not insured by OWNER; and

5.11.2.2. loss or damage to the completed Project or part thereof caused by, arising out of or resulting from fire or other insured peril covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.10, after substantial completion pursuant to paragraph 14.8 or after final payment pursuant to paragraph 14.13.

Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in this paragraph 5.11.2 shall contain provisions to the effect that in the event of payment of any such loss, damage or consequential loss the insurers will have no rights of recovery against any of CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees and agents of any of them.

Receipt and Application of Insurance Proceeds

5.12. Any insured loss under the policies of insurance required by paragraphs 5.6 and 5.7 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. OWNER shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

5.13. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

Acceptance of Bonds and Insurance; Option to Replace;

5.14. If either party (OWNER or CONTRACTOR) has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.7. OWNER and

CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

Partial Utilization--Property Insurance:

5.15. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be cancelled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6--CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.1. CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR.

Labor, Materials and Equipment:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER's written consent given after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

Progress Schedule:

6.6. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.9 as it may be adjusted from time to time as provided below:

6.6.1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

6.6.2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.7. Substitutes and "Or-Equal" Items:

6.7.1. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be accepted by ENGINEER under the following circumstances:

6.7.1.1. *"Or-Equal"*: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

6.7.1.2. *Substitute Items*: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under

subparagraph 6.7.1.1., it will be considered a proposed substitute item. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. The procedure for review by the ENGINEER will include the following as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall first make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute.

6.7.1.3. *CONTRACTOR's Expense*: All data to be provided by CONTRACTOR in support of any proposed "or-equal" or substitute item will be at CONTRACTOR's expense.

6.7.2. *Substitute Construction Methods or Procedures*: If a specific means, method, technique, sequence or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.7.1.2.

6.7.3. *Engineer's Evaluation*: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in

evaluating substitutes proposed or submitted by CONTRACTOR pursuant to paragraphs 6.7.1.2 and 6.7.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute item.

Concerning Subcontractors, Suppliers and Others:

6.8.1. CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.2. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organization (including those who are to furnish the principal items of materials or equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's or ENGINEER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be removed on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be adjusted by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

6.9.1. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between OWNER and ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.9.2. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the ENGINEER through CONTRACTOR.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.11. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.6 or 5.7, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants and all other additional insureds for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

Patent Fees and Royalties:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

Permits:

6.13. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

Laws and Regulations:

6.14.1. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses and damages caused by, arising out of or resulting there from; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR or CONTRACTOR's obligations under paragraph 3.3.2.

Taxes:

6.15. CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

Use of Premises:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.18. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all

approved Samples and a counter part of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

Safety and Protection:

6.20. CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. all persons on the Work site or who may be affected by the Work;

6.20.2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier or other person or organization directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

Safety Representative:

6.21. CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

Hazard Communication Program:

6.22. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in accordance with Laws or Regulations.

Emergencies:

6.23. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or ENGINEER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued to document the consequences of such action.

6.24. Shop Drawings and Samples:

6.24.1. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawings and Sample submittals (see paragraph 2.9). All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show ENGINEER the materials and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.26.

6.24.2. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

6.25. Submittal Procedures:

6.25.1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

6.25.1.1. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto.

6.25.1.2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

6.25.1.3. all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

6.25.2. Each submittal will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

6.25.3. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawings or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

6.26. ENGINEER will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by ENGINEER as required by paragraph 2.9. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed project as a functioning whole as indicated by the Contract Documents. ENGINEER's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where particular means, method, technique, sequence or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.27. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission as required by paragraph 6.25.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.25.1.

6.28. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by ENGINEER as required by paragraph 2.9, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

Continuing the Work:

6.29. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.30. CONTRACTOR's General Warranty and Guarantee

6.30.1. CONTRACTOR warrants and guarantees to OWNER, ENGINEER and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be *defective*. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

6.30.1.1. abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

6.30.1.2. normal wear and tear under normal usage.

6.30.2. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

6.30.2.1. observations by ENGINEER;

6.30.2.2. recommendation of any progress or final payment by ENGINEER;

6.30.2.3. the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents;

6.30.2.4. use or occupancy of the Work or any part thereof by OWNER;

6.30.2.5. any acceptance by OWNER or any failure to do so;

6.30.2.6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13;

6.30.2.7. any inspection, test or approval by others; or

6.30.2.8. any correction of *defective* Work by OWNER.

Indemnification:

6.31. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting there from, and (ii) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.

6.32. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them

to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

6.33. The indemnification obligations of CONTRACTOR under paragraph 6.31 shall not extend to the liability of ENGINEER and ENGINEER's Consultants, officers, directors, employees or agents caused by the professional negligence errors or omissions of any of them.

Survival of Obligations:

6.34. All representatives, indemnifications, warranties and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Agreement.

ARTICLE 7--OTHER WORK

Related Work at Site:

7.1. OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other direct contracts therefore which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then: (i) written notice thereof will be given to CONTRACTOR prior to starting any such other work, and (ii) CONTRACTOR may make a claim therefore as provided in Articles 11 and 12 if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects or deficiencies in such other work that render it unavailable or unsuitable

for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure so to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in such other work.

Coordination:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the following will be set forth in Supplementary Conditions:

7.4.1. the person, firm or corporation who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified;

7.4.2. the specific matters to be covered by such authority and responsibility will be itemized; and

7.4.3. the extent of such authority and responsibilities will be provided.

Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

ARTICLE 8--OWNER'S RESPONSIBILITIES

8.1. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.3. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and drawings of physical conditions in existing structures at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents.

8.5. OWNER's responsibilities in respect of purchasing and maintaining liability and property insurance are set forth in paragraphs 5.5 through 5.10.

8.6. OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

8.9. The OWNER shall not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.10. OWNER's responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.11. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9--ENGINEER'S STATUS DURING CONSTRUCTION

OWNER's Representative:

9.1. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

Visits to Site:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against *defective* Work. ENGINEER's visits and on-site observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.13, and particularly, but without limitation, during or as a result of ENGINEER's on-site visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

Project Representative:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more continuous observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.13 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other person will be as provided in the Supplementary Conditions.

Clarifications and Interpretations:

9.4. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, OWNER or CONTRACTOR may make a written claim therefore as provided in Article 11 or Article 12.

Authorized Variations in Work:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR who shall perform the Work involved promptly. If OWNER or CONTRACTOR believes that a Field Order justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree as to the amount or extent thereof, OWNER or CONTRACTOR may make a written claim therefore as provided in Article 11 or 12.

Rejecting Defective Work:

9.6. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be *defective*, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.7. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

9.8. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

9.9. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

Determinations for Unit Price:

9.10. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding upon OWNER and CONTRACTOR, unless, within ten days after the date of any such decision, either OWNER or CONTRACTOR delivers to the other and to ENGINEER written notice of intention to appeal from ENGINEER's decision and: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in Exhibit GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to ENGINEER's decision, unless otherwise agreed in writing by OWNER and CONTRACTOR. Such appeal will not be subject to the procedures of paragraph 9.11.

Decisions on Disputes:

9.11. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after the start of such occurrence or event unless ENGINEER allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute or other matter. The opposing party shall submit any response to ENGINEER and the claimant within thirty days after receipt of the claimant's last submittal (unless ENGINEER allows additional time). ENGINEER will render a formal decision in writing within thirty days after receipt of the opposing party's submittal, if any, in accordance with this paragraph. ENGINEER's written decision on such claim, dispute or other matter will be final and binding upon OWNER and CONTRACTOR unless: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in EXHIBIT GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within thirty days after the date of such decision and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to such claim, dispute or other matter in accordance with applicable Laws and Regulations within sixty days of the date of such decision, unless otherwise agreed in writing by OWNER and CONTRACTOR.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to paragraphs 9.10 or

9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.16) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter pursuant to Article 16.

9.13. Limitations on ENGINEER's Authority and Responsibilities:

9.13.1. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by ENGINEER shall create, impose or give rise to any duty owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them.

9.13.2. ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and Other documentation required to be delivered by paragraph 14.12 will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, the Contract Documents.

9.13.5. The limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to ENGINEER's Consultants, Resident Project Representative and assistants.

ARTICLE 10--CHANGES IN THE WORK

10.1. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work. Such additions, deletions or revisions will be authorized by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work

Change Directive, a claim may be made therefore as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of any emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

10.4.1. changes in the Work which are (i) ordered by OWNER pursuant to paragraph 10.1, (ii) required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or (iii) agreed to by the parties;

10.4.2. changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11;

provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11--CHANGE OF CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after the start of such occurrence or event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise

agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order or of any claim for an adjustment in the Contract Price will be determined as follows:

11.3.1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1 through 11.9.3, inclusive);

11.3.2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2);

11.3.3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 11.6).

Cost of the Work:

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amount no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen and other personnel employed full-time at the site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3. Payments made by CONTRACTOR to the Subcontractors for Work performed or furnished by Subcontractors. If required by OWNER, CONTRACTOR shall

obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids, if any, will be accepted. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3. Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof--all in accordance with the terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4. Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

11.4.5.6. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.9), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is

placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5. The term Cost of the Work shall not include any of the following:

11.5.1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1. or specifically covered by paragraph 11.4.4--all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

11.5.2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of *defective* Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6. The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1. a mutually acceptable fixed fee

11.7. Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

Cash Allowance:

11.8. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be furnished and performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

11.8.1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

11.8.2. CONTRACTOR's cost for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances and no demand for additional payment on account of any of the foregoing will be valid.

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.9. Unit Price Work:

11.9.1. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with paragraph 9.10.

11.9.2. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

11.9.3. OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 11 if:

11.9.3.1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

11.9.3.2. there is no corresponding adjustment with respect to any other item of Work; and

11.9.3.3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12--CHANGE OF CONTRACT TIMES

12.1. The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. All time limits stated in the Contract Documents are of the essence of the Agreement.

12.3. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a claim is made therefore as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.4. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall OWNER be liable to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of CONTRACTOR, or (ii) delays beyond the control of both parties including but not limited to fires, floods,

epidemics, abnormal weather conditions, acts of God or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

ARTICLE 13--TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.1. *Notice of Defects:* Prompt notice of all *defective* Work of which OWNER or ENGINEER have actual knowledge will be given to CONTRACTOR. All *defective* Work may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdiction interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

Tests and Inspections:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.4. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

13.4.1. for inspections, tests or approvals covered by paragraph 13.5 below;

13.4.2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3. as otherwise specifically provided in the Contract Documents.

13.5. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection, or approval. CONTRACTOR shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work.

13.6. If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

13.7. Uncovering Work as provided in paragraph 13.6 shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

Uncovering Work:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is *defective*, CONTRACTOR shall pay all claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefore as provided in Article 11. If, however, such Work is not found to be *defective*, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

OWNER May Stop the Work:

13.10. If the Work is *defective*, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

Correction or Removal of Defective Work:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all *defective* Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with Work that is not *defective*. CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.12. Correction Period:

13.12.1. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be *defective*, CONTRACTOR shall promptly, without cost to

OWNER and in accordance with OWNER's written instructions: (i) correct such *defective* Work, or, if it has been rejected by OWNER, remove it from the site and replace it with Work that is not *defective*, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting there from. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the *defective* Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

13.12.2. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

13.12.3. Where *defective* Work (and damage to other Work resulting there from) has been corrected, removed or replaced under this paragraph 13.12, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

Acceptance of Defective Work:

13.13. If, instead of requiring correction or removal and replacement of *defective* Work OWNER (and, prior to ENGINEER's recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all claims, costs, losses and damages attributable to OWNER's evaluation of and determination to accept such *defective* Work (such costs to be approved by ENGINEER as to reasonableness). If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER May Correct Defective Work:

13.14. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct *defective* Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors and ENGINEER and ENGINEER's Consultants access to the site to enable OWNER to

exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's *defective* Work. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

ARTICLE 14--PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.1. The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

Application for Progress Payment

14.2. At least twenty days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

CONTRACTOR's Warranty of Title:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

Review of Applications for Progress Payment:

14.5. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's on-site observations of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

14.5.1. the Work has progressed to the point indicated.

14.5.2. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated in the recommendation), and

14.5.3. the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

14.6. ENGINEER's recommendation of any payment, including final payment, shall not mean that ENGINEER is responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of Work, or for any failure of CONTRACTOR to perform or furnish Work in accordance with the Contract Documents.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.5. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.7.1. the Work is *defective*, or completed Work has been damaged requiring correction or replacement,

14.7.2. the Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct *defective* Work or complete Work in accordance with paragraph 13.14, or

14.7.4. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.4 inclusive.

OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

14.7.5. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work,

14.7.6. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens.

14.7.7. there are other items entitling OWNER to a set-off against the amount recommended, or

14.7.8. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1. through 14.7.3 or paragraphs 15.2.1 through 15.2.4 inclusive;

but OWNER must have CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

Substantial Completion:

14.8. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER

and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

Partial Utilization:

14.10. Use by OWNER at OWNER's option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefore. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.15 in respect of property insurance.

Final Inspection:

14.11. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or *defective*. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

Final Application for Payment:

14.12. After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by paragraph 5.4, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.4.13, (ii) consent of the surety, if any, to final payment, and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu of such releases or waivers of Liens and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and (ii) all payrolls, material and equipment bills and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

Final Payment and Acceptance:

14.13. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application.

14.14. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Waiver of Claims:

14.15. The making and acceptance of final payment will constitute:

14.15.1. a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to

paragraph 14.11, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

14.15.2. a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15--SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work:

15.1. At any time and without cause, OWNER may suspend the Work, or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes an approved claim therefore as provided in Articles 11 and 12.

OWNER May Terminate:

15.2. Upon the occurrence of any one or more of the following events:

15.2.1. if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.9 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2. if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.3. if CONTRACTOR disregards the authority of ENGINEER; or

15.2.4. if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which Owner has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by OWNER arising out of or resulting from completing the Work such excess will be paid to CONTRACTOR. If such claims, costs, losses and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses and damages incurred by

OWNER will be reviewed by ENGINEER as to their reasonableness and when so approved by ENGINEER incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven day's written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items);

15.4.1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

15.4.2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

15.4.3. for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and

15.4.4. for reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

CONTRACTOR May Stop Work or Terminate:

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application of Payment within thirty days after it is submitted or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, and provided OWNER and ENGINEER do not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within thirty days after it is submitted, or OWNER has failed for thirty days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may upon seven day's written notice to OWNER and ENGINEER stop the Work until payment of all such amount due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.5 are not intended to preclude CONTRACTOR from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

ARTICLE 16--DISPUTE RESOLUTION

If and to the extent that OWNER and CONTRACTOR have agreed on the method and procedure for resolving disputes between them that may arise under this Agreement, such dispute resolution method and procedure, if any, shall be as set forth in Exhibit GC-A, "Dispute Resolution Agreement," to be attached hereto and made a part hereof. If no such agreement on the method and procedure for resolving such disputes has been reached, and subject to the provisions of paragraphs 9.10, 9.11, and 9.12, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17--MISCELLANEOUS

Giving Notice:

17.1. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Times:

17.2.1. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight will constitute a day.

Notice of Claim:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

Cumulative Remedies:

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

Professional Fees and Court Costs Included:

17.5. Whenever reference is made to "claims, costs, losses and damages," it shall include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs.

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1. ENUMERATION OF PLANS, SPECIFICATIONS AND ADDENDA

Following are the Plans, Specifications and Addenda which form a part of this contract, as set forth in Paragraph 1 of the General Conditions, "Contract and Contract Documents":

DRAWINGS

General Construction:	Nos.	<u>WWTP Plans (1977/1980)</u>	Ref. Only
Heating and Ventilating:	"	_____	
Plumbing:	"	_____	
Electrical:	"	_____	
_____	"	_____	
_____	"	_____	

SPECIFICATIONS:

General Construction	Page	<u>01 11 00</u>	to	<u>33 01 45</u> ,	incl.
	Page	_____	to	_____,	incl.
Heating and Ventilating:	Page	_____	to	_____,	incl.
Plumbing:	Page	_____	to	_____,	incl.
Electrical:	Page	_____	to	_____,	incl.
_____	Page	_____	to	_____,	incl.
_____	Page	_____	to	_____,	incl.

ADDENDA:

No.	_____	Date	_____	No.	_____	Date	_____
No.	_____	Date	_____	No.	_____	Date	_____

2. STATED ALLOWANCES

Pursuant to Article 11.8 of the General Conditions, the Contractor shall include the following cash allowances in his proposal:

- (a) For _____ (Page _____ of Specifications) \$ _____
- (b) For _____ (Page _____ of Specifications) \$ _____
- (c) For _____ (Page _____ of Specifications) \$ _____
- (d) For _____ (Page _____ of Specifications) \$ _____
- (e) For _____ (Page _____ of Specifications) \$ _____
- (f) For _____ (Page _____ of Specifications) \$ _____

3. A. Payments to Contractor

1. To insure the proper performance of this contract, the Owner shall retain five percent (5%) of the amount of each estimate until final completion and acceptance of all work covered by this contract: Provided that the Contractor shall submit his estimate not later than the first day of the month: Provided further that on completion and acceptance of each separate building, public work, or other division of the contract, on which the price is stated separately in the contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
2. In preparing estimates the material delivered on the site and preparatory work done may be taken into consideration.
3. All material and work covered by partial payments made shall thereupon become the sole property of the Owner, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Owner to require the fulfillment of all of the terms of the contract.
4. Owner's Right to Withhold Certain Amounts and Make Application Thereof: The Contractor agrees that he will indemnify and save the Owner harmless from all claims growing out of the lawful demands of subcontractors, laborers, workers, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this contract. The Contractor shall, at the Owner's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If the Contractor fails so to do, then the Owner may, after having served written notice on the said Contractor, either pay unpaid bills, of which the Owner has written notice, direct, or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of this contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor or his Surety. In paying any unpaid bills of the Contractor, the Owner shall be deemed the agent of the Contractor, and any payment so made by the Owner shall be considered as a payment made under the contract by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

B. Payments by Contractor

The Contractor shall pay (a) for all transportation and utility services not later than the 20th day of the calendar month following that in which services are rendered, (b) for all materials, tools, and other expendable equipment to the extent of ninety percent (90%) of the cost thereof, not later than the 20th day of the calendar month following that in which such materials, tools, and equipment are delivered at the site of the project, and the balance of the cost thereof, not later than the 30th day following the completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used, and (c) to each of his subcontractors, not later than the 5th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by his subcontractors to the extent of each subcontractor's interest therein.

C. Time for Completion and Liquidated Damages

It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the contract of the work to be done hereunder are ESSENTIAL CONDITIONS of this contract; and it is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed".

The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for the completion of the work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

If the said Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this contract, to pay to the Owner the amount specified in the contract, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contractor shall be in default after the time stipulated in the contract for completing the work.

The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.

It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract. Provided that the Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; Provided further that the Contractor shall not to be charged with liquidated damages or any excess cost when the delay in completion of the work is due:

- (a) To any preference, priority or allocation order duly issued by the Government.
- (b) To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and
- (c) To any delays of Subcontractors or suppliers occasioned by any of the causes specified in subsections (a) and (b) of this article:

Provided further that the Contractor shall, within ten (10) days from the beginning of such delay, unless the Owner shall grant a further period of time prior to the date of final settlement of the contract, notify the Owner, in writing, of the delay and notify the Contractor within a reasonable time of its decision in the matter.

D. Protection of Lives and Health

"The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and construction codes, in addition to specific safety and health regulations described by Chapter XIII, Bureau of Labor Standards, Department of Labor, Part 1518, Safety and Health Regulations for Construction, as outlined in the Federal Register, Volume 36, No. 75, Saturday, April 17, 1971. Title 29 - LABOR, shall be observed and the Contractor shall take or cause to be taken, such additional safety and health measures as the Contracting Authority may determine to be reasonably necessary."

E. Subcontracts

The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5 (a)(1) through (10) and such other clauses as the (Department of Housing and Urban Development) 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 the contract clauses in 29 CFR 5.5.

F. Interest of Member of or Delegate to Congress

No member of or Delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise there from, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

G. Other Prohibited Interests

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part hereof. No officer, employee, architect, attorney, engineer or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

H. Use and Occupancy Prior to Acceptance by Owner

The Contractor agrees to the use and occupancy of a portion or unit of the project before formal acceptance by the Owner, provided the Owner:

- (a) Secures written consent of the Contractor except in the event, in the opinion of the Architect/Engineer, the Contractor is chargeable with unwarranted delay in final clean-up of punch list items or other contract requirements.
- (b) Secures endorsement from the insurance carrier and consent of the surety permitting occupancy of the building or use of the project during the remaining period of construction, or,
- (c) When the project consists of more than one building, and one of the buildings is occupied, secures permanent fire and extended coverage insurance, including a permit to complete construction. Consent of the surety must also be obtained.

I. Photographs of the Project

If required by the Owner, the Contractor shall furnish photographs of the project, in the quantities and as described in the Supplemental General Conditions.

J. Suspension of Work

Should the Owner be prevented or enjoined from proceeding with work either before or after the start of construction by reason of any litigation or other reason beyond the control of the Owner, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay; but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with such determination to be set forth in writing.

4. FEDERAL LABOR STANDARDS PROVISIONS

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.

A. 1. (i) Minimum Wages

All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less than often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(iv). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 FR Part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- (ii)(a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)
- (c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representative, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)
- (d) The wage rate (including the fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

- (iv) If the contractor does not make payments to a trustee or other third persons, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the 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. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding

HUD or its designee 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 the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices and trainees, employed by the contractor or any subcontractor the full amount of wages required by the contract.

In the event of failure to pay any laborer or mechanic, including any apprentice or trainee, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make sure disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records.

Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1 (b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

- (ii)(a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant, sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149).
- (b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1) That the payroll for the payroll period contains the information required to be maintained under 29 CFR Part 5.5(a)(3)(i) and that such information is correct and complete;

- (2) That each laborer or mechanic (including each apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;
 - (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph A.3.(ii)(b) of this section.
 - (d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.
- (iii) The contractor or subcontractor shall make the records required under paragraph A.3.(i) of this section available for inspection, copying, or transcription by authorized representative of HUD or its designee or the Department of Labor, and shall permit such representative to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

4. (i) Apprentices.

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe

benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees.

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity.

The utilization of apprentices, trainees and journeyman under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements.

The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as HUD or its designee 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 the contract clauses in 29 CFR Part 5.5

7. Contract termination; debarment.

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

8. Compliance with 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 HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1010, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part "Whoever, for the purpose of ...influencing in any way the action of such Administration ...makes, utters or publishes any statement, knowing the same to be false ...shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees.

No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee 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 under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act

As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

1. Overtime requirements.

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

2. Violation; liability for unpaid wages, liquidated damages.

In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 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 subparagraph (1) of this paragraph.

3. Withholding for unpaid wages and liquidated damages.

HUD or its designee 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 contract, 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 subparagraph (2) of this paragraph.

4. Subcontracts.

The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety

1. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his 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 Title 29 Part 1926 (formerly part 1518) 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).
3. The Contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The Contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

5. SPECIAL HAZARDS

The Contractor's and his Subcontractor's Public Liability and Property Damage Insurance shall provide adequate protection against the following special hazards:

6. CONTRACTOR'S AND SUBCONTRACTOR'S PUBLIC LIABILITY, VEHICLE LIABILITY, AND PROPERTY DAMAGE INSURANCE

As required under Article 5 of the General Conditions, the Contractor's Public Liability Insurance and Vehicle Liability Insurance shall be in an amount not less than \$1,000,000 for injuries, including accidental death, to any one person, and subject to the same limit for each person, in an amount not less than \$1,000,000 on account of one accident, and Contractor's Property Damage Insurance in an amount not less than \$1,000,000.

The Contractor shall either (1) require each of his subcontractors to procure and to maintain during the life of his subcontract, Subcontractor's Public Liability and Property Damage Insurance of this type and in the same amounts as specified in the preceding paragraph, or (2) insure the activities of his subcontractors in his own policy.

7. PHOTOGRAPHS OF PROJECT

As provided in Paragraph 3.I of the Supplemental General Conditions, the Contractor will furnish photographs in the number, type, and stage as enumerated below:

8. SCHEDULE OF OCCUPATIONAL CLASSIFICATIONS AND MINIMUM HOURLY WAGE RATES AS REQUIRED UNDER PARAGRAPH 4.B OF THE SUPPLEMENTAL GENERAL CONDITIONS

Given on Pages Wage Rates: pages 1- 5.

9. BUILDER'S RISK INSURANCE

As provided in the General Conditions, Article 5.6, the Contractor will/~~will not~~** maintain Builder's Risk Insurance (fire and extended coverage) on a 100 percent completed value basis on the insurable portions of the project for the benefit of the Owner, the Contractor, and all Subcontractors, as their interests may appear.

** Strike out one.

10. SPECIAL EQUAL OPPORTUNITY PROVISIONS

A. Activities and Contracts Not Subject to Executive Order 11246, as Amended

(Applicable to Federally assisted construction contracts and related subcontracts \$10,000 and under.)

During the performance of this contract, 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 nondiscrimination 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. Contractors shall incorporate foregoing requirements in all subcontracts.

B. Executive Order 11246 (contracts/subcontracts above \$10,000)

1. Section 202 Equal Opportunity Clause

During the performance of this contract, the Contractor agrees as follows:

- a. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, 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, 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. 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.
- b. 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 without regard to race, color, religion, sex, or national origin.
- c. 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 by the Contract Compliance Officer advising the said labor union or workers' representatives of the Contractor's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d. 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.
- e. 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 the Department of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and others.
- f. 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 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 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

g. The Contractor will include the provisions of the sentence immediately preceding paragraph a. and the provisions of paragraphs a. through g. in every subcontract or purchase order unless exempted by rules, regulations, 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 Department may direct as a means of enforcing such provisions, including sanctions for non-compliance. 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 Department, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

2. Notice of Requirement for Affirmative Action to ensure Equal Employment Opportunity (Executive Order 11246).
(Applicable to contracts/subcontracts exceeding \$10,000.)

- a. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- b. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation	Goals for female participation
Insert Goals	Insert Goals
26.5%	6.9%

NOTE: THESE GOALS MUST BE PROVIDED. Also, list State Geographic Area to be covered on following page.

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted) performed in the covered area. If the Contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its Federally involved and non-Federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- c. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
 - d. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is _____
City of Dyersburg, Dyer Couty, Tennessee.
3. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)
- a. As used in these specifications:
 - (1) "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - (2) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - (3) "Employer identification number" means the federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
 - (4) "Minority" includes:
 - (a) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

- (b) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South America or other Spanish Culture or origin, regardless of race);
 - (c) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);
 - (d) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
- b. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
- c. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

- d. The Contractor shall implement the specific affirmative action standards provided in paragraphs g.(1) through (16) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing contracts in geographical areas where they do not have a Federal or Federally-assisted construction contract shall apply the minority and female goals established for the geographic area where the contract is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
- e. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- f. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
- g. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

- (1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- (2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and maintain a record of the organization's responses.
- (3) Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
- (4) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- (5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under g.(2) above.

- (6) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company's EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- (7) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- (8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- (9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date of the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- (10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

- (11) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
 - (12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - (13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - (14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - (15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - (16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- h. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations g.(1) through (16). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under g.(1) through (16) of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation shall not be a defense for the Contractor's non-compliance.

- i. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
- j. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
- k. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
- l. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
- m. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph g. of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

- n. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company's EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number where assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractor shall not be required to maintain separate records.
- o. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

C. Certification of Nonsegregated Facilities (Over \$10,000)

By the submission of this bid, the bidder, offeror, applicant or subcontractor certifies that he/she does not maintain or provide for his/her employees any segregated facility at any of his/her establishments, and that he/she does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. He/She certifies further that he/she will not maintain or provide for employees any segregated facilities at any of his/her establishments, and he/she will not permit employees to perform their services at any location under his/her control where segregated facilities are maintained. The bidder, offeror, applicant or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause of this contract. 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, ***transportation and housing facilities provided for employees which are segregated on the basis of race, color, religion, or are in fact segregated on the basis of race, color, religion, or otherwise. He/She further agrees that (except where he/she has obtained identical certifications from proposed subcontractors for specific time periods) he/she 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 he/she will retain such certifications in his/her files; and that he/she will forward the following notice to such proposed subcontractors (except where proposed subcontractors have submitted identical certifications for specific time periods).

D. Civil Rights Act of 1964

Under 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.

E. Section 109 of the Housing and Community Development Act of 1974

No person in the United States shall on the grounds of race, color, national origin, 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 funds made available under this title.

F. "The Section 3 Clause"

1. The work to be performed under this contract is on a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of section 3 of the Housing Urban Development Act of 1968, as amended, 12 U.S.C. 1701u. Section 3 requires that to the greatest extent feasible, opportunities for training and employment be given to lower income residents of the area of the Section 3 covered project, and contracts for work in connection with the project be awarded to business concerns which are located in, or owned in substantial part by persons residing in the area of the Section 3 covered project.
2. The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 Part CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability which would prevent them from complying with these requirements.
3. The contractor will send to each labor organization or representative of workers with which he has a collective bargaining agreement or other contract or understanding, if any, a notice advising the said labor organization or workers' representative of his commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.
4. The contractor will include this Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal Financial assistance, take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR Part 135. The contractor will not subcontract with any subcontractor where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR part 135 and will not let any subcontract unless the subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

5. Compliance with the provisions of Section 3, the regulations set forth in 24 CFR Part 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of the contract, shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient, its contractors and subcontractors, its successors, and assigns to those sanctions specified by the grant or loan agreement or contract through which Federal assistance is provided, and to such sanctions as are specified by 24 CFR Part 135.

G. 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.

H. Section 504 Handicapped

Non-Discrimination for Handicapped Workers

No otherwise qualified handicapped individual in the U.S., as defined in Section 7, Paragraph 6 of the Rehabilitation Act of 1973 shall, solely by reason of this handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

11. **CERTIFICATION OF COMPLIANCE WITH AIR AND WATER ACTS**

(Applicable to Federally assisted construction contracts and related subcontracts exceeding \$100,000)

Compliance with Air and Water Acts

During the performance of this contract the contractor and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended.

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 List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.

2. Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 USC 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 contract, 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 contract, is under consideration to be listed on the EPA List of Violating Facilities.
4. Agreement by the Contractor that he 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.

12. SPECIAL CONDITIONS PERTAINING TO HAZARDS, SAFETY STANDARDS AND ACCIDENT PREVENTION

A. Lead-Based Paint Hazards

(Applicable to contracts for construction or rehabilitation of residential structures.)
The construction or rehabilitation of residential structures is subject to the HUD Lead-Based Paint regulations, 24 CFR Part 35. The Contractor and Subcontractors shall comply with the provisions for the elimination of lead-base paint hazards under sub-part B of said regulations. The Owner will be responsible for the inspections and certifications required under Section 35.14(f) thereof.

B. Use of Explosives (Modify as Required)

When the use of explosives is necessary for the prosecution of the work, the Contractor shall observe all local, state and Federal laws in purchasing and handling explosives. The Contractor shall take all necessary precaution to protect completed work, neighboring property, water lines, or other underground structures. Where there is danger to structures or property from blasting, the charges shall be reduced and the material shall be covered with suitable timber, steel or rope mats.

The Contractor shall notify all owners of public utility property of intention to use explosives at least eight hours before blasting is done, close to such property. Any supervision or direction of use of explosives by the engineer, does not in any way reduce the responsibility of the Contractor or his Surety for damages that may be caused by such use.

C. Danger Signals and Safety Devices (Modify as Required)

The Contractor shall make all necessary precautions to guard against damages to property and injury to persons. He shall put up and maintain in good condition, sufficient red or warning lights at night, suitable barricades and other devices necessary to protect the public. In case the Contractor fails or neglects to take such precautions, the Owner may have such lights and barricades installed and charge the cost of this work to the Contractor. Such action by the Owner does not relieve the Contractor of any liability incurred under these specifications or contract.

13. FLOOD DISASTER PROTECTION

This Contract is subject to the requirements of the Flood Disaster Protection Act of 1973 (P.L. 93-234). Nothing included as a part of this Contract is approved for acquisition or construction purposes as defined under Section 3(a) of said Act, for use in an area identified by the Secretary of HUD as having special flood hazards which is located in a community not then in compliance with the requirements for participation in the national flood insurance program pursuant to Section 201(d) of said Act; and the use of any assistance provided under this Contract for such acquisition or construction in such identified areas in communities then participating in the national flood insurance program shall be subject to the mandatory purchase of flood insurance requirements of Section 102(a) of said Act.

Any contract or agreement for the sale, lease, or other transfer of land acquired, cleared or improved with assistance provided under the Contract shall contain, if such land is located in an area identified by the Secretary as having special flood hazards and in which the sale of flood insurance has been made available under the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq., provisions obligating the transferee and its successors or assigns to obtain and maintain, during the ownership of such land, such flood insurance as required with respect to financial assistance for acquisition or construction purposes under Section 102(a) of the Flood Disaster Protection Act of 1973.

14. ACCESS TO RECORDS/MAINTENANCE OF RECORDS

The Contractor shall maintain accounts and records, including personnel, property, and financial records, adequate to identify and account for all costs pertaining to the contract and such other records as may be deemed necessary by the locality to assure proper accounting for all funds. These records will be available for audit purposes to the locality or the State or any other authorized representative, and will be retained for three years after contract completion unless permission to destroy them is granted by the locality. Moreover, the locality, State, or any authorized representative shall have access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

15. CONFLICT OF INTEREST OF OFFICERS OR EMPLOYEES OF THE LOCAL JURISDICTION, MEMBERS OF THE LOCAL GOVERNING BODY, OR OTHER PUBLIC OFFICIALS

No officer or employee of the local jurisdiction or its designees or agents, no member of the governing body, and no other public official of the locality who exercises any function or responsibility with respect to this contract, during his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed. Further, the contractor shall cause to be incorporated in all subcontracts the language set forth in this paragraph prohibiting conflict of interest.

16. DRUG-FREE WORKPLACE

Under the provisions of Tennessee Code Annotate § 50-9-113 enacted by the General Assembly effective 2001, a) employers with five (5) or more employees who contract with either the state or a local government to provide construction services are required to submit an affidavit stating that they have a drug free workplace program that complies with Title 50, Chapter 9, in effect at the time of submission of a bid at least to the extent required of governmental entities. The statute, imposes other requirements on the contractor, but the grantee's responsibility is specifically limited in section (b) of the state as follows:

(b) A written affidavit by the principal officer of a covered employer provided to a local government at the time such bid or contract is submitted stating that the employer is in compliance with this section shall absolve the local government of all further responsibility under this section and any liability arising from the employer's compliance or failure of compliance with the provisions of this section.

17. PROJECT SIGN

If a project sign is erected, it must include the following:

Governor *(Name)*
 Department of Economic and Community Development
 Commissioner *(Name)*
 CDBG Grant *(Amount)*

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APPENDIX

Appendix	A
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DRAWINGS

Wastewater Treatment Plant – Dyersburg, TN
Contract 'B' (14 sheets)
dated 1977 (Revised 1980)
by Nichols Engineering Services, Inc.

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Project information
- C. Work covered by Contract Documents
- D. Project Milestones
- E. Access to the Site
- F. Contract Drawings
- G. General Arrangement
- H. Time of Work

1.02 RELATED SECTIONS

- A. Division 01 - Division 33

1.03 WORK COVERED BY CONTRACT DOCUMENTS

- A. Summary - This project consists of rehabilitation of Wet Well located at Main Influent Pump Station. Rehabilitation includes cleaning, repair of wet well structural integrity, application of interior protective coating (Epoxy Resin liner, bypass pumping, removal of existing vent pipe and enlarging hole in wetwell top for secondary access point, replacement of PVC vent pipe and other related work.
- B. The Work of Project is defined by the Contract Documents and consists of the following:
 - 1. Sewer diversion pumping
 - 2. Wet well rehabilitation with epoxy type linings
 - 3. All testing required by the Contract Documents to complete the work.

CITY OF DYERSBURG
SEWER SYSTEM IMPROVEMENTS

1.04 PROJECT MILESTONES

A. Milestone 1 – Complete Rehabilitation of specified wet well

1. Install, test and place into successful operation the required lining system to Main Influent Pump Station Wet Well within 60 days of Notice to Proceed.
- B. All remaining Work shall be completed within the overall Contract Time.

1.05 ACCESS TO THE SITE

- A. Limit the use of the Project site to areas with the Contract limits indicated. Do not disturb portions of Project site beyond the areas in which Work is indicated.

1.06 CONTRACT DRAWINGS

- A. The Work is indicated in this Contract Manual entitled 2018 CDBG Dyersburg Sewer System Improvements – Main Influent Pump Station Wet Well Rehabilitation. The numbers and titles of all Contract Drawings appear on the index sheet of the Contract Drawings. Contract Drawings shall be considered an integral part of the Contract Documents as defined herein.
- B. In this Section and in other Sections of these Contract Specifications, the Contract Drawings are usually referred to as "Contract Drawings."

1.07 GENERAL ARRANGEMENT

- A. Contract Drawings indicate the extent and general arrangement of the Work. If the Contractor deems any departures from the Contract Drawings necessary, details of such departures and reasons therefore shall be submitted as soon as known for approval via the Request for Information or submittal process as appropriate. No such departures shall be made without prior written approval.

1.08 TIME OF WORK

- A. The normal time of Work for this Contract shall be **Monday through Friday** except legal holidays observed by City of Dyersburg (CITY) and between the hours of **7:00 a.m.** and **6:00 p.m.**, local time, **and Saturdays between 7:00 am and 3:30 pm**, local time.
- B. If it shall become necessary to perform Work at night or during hours other than those noted above, the Construction Manager shall be informed in writing no later than two (2) work days in advance of the beginning of such Work. No Work may commence until approval of the proposed work hours has been obtained from the Construction Manager. Temporary lighting and all other necessary facilities for performing and inspecting the Work shall be provided and maintained by the Contractor.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION

SECTION 01 12 00

CONTRACTOR'S USE OF PREMISES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Listing of all other Major Section Headers
- B. Scope (1.02)
- C. Submittals (1.03)
- D. Measurement and Payment (1.04)
- E. General (1.05)
- F. Rights-of-Way (1.06)
- G. Private Property Necessary for the Work (1.07)
- H. Private Property Convenient for the Work (1.08)
- I. Local Streets and Alleys (1.09)
- J. State and Federal Rights-of-Way (1.10)
- K. Railroad Rights-of-Way (1.11)
- L. Other Utilities and Other Entities (1.12)

1.02 SCOPE

- A. Contractor's Use of Premises

1.03 SUBMITTALS

- A. Conform to the requirements of Section 01 33 00 Submittals.
- B. Agreements with private property owners to access or use property related to the project.

1.04 MEASUREMENT AND PAYMENT

- A. Consider expenses for contractor's use of premises to be incidental to the Work with no separate payment allowed.
- B. If damages occur, restore to pre-construction condition or an approved betterment at no cost to CITY.

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1.05 GENERAL

- A. Before beginning Work, coordinate working hours with the proper agencies.
- B. At least forty-eight hours prior, but not more than two weeks prior, to construction for any acquired rights of entry, provide written notification to the Construction Manager and the residents of the affected properties.
- C. Dispose of waste materials at City of Dyersburg approved sites.
- D. Do not burn waste materials on the project site.

1.06 RIGHTS-OF-WAY

- A. Confine access, operations, and storage areas to properly acquired rights of entry and easements; trespassing on abutting property or other areas is not allowed.
- B. Maintain access for emergency vehicles, including access to fire hydrants.
- C. Avoid obstructing drainage ditches or inlets; when obstruction is unavoidable due to requirements of the Work, provide regulatory approved grading and temporary drainage structures to maintain unimpeded flow.
- D. Locate and protect private lawn sprinkler systems that may exist on rights of entry within the site. Repair or replace damaged systems to condition equal to or better than pre-construction condition.
- E. Perform daily cleanup of all disturbed areas. Keep streets, driveways, and sidewalks clean of dirt, debris, and scrap materials. Do not leave buildings, roads, streets, or other construction areas unclean overnight.

1.07 PRIVATE PROPERTY NECESSARY FOR THE WORK

- A. For sewer or water main rehabilitation work that encroaches upon private property, the contractor is allowed to use existing easements. CITY generally will not obtain additional easements and rights of entry to accomplish the Work.
- B. Comply with all stipulations outlined in agreements between a property owner and CITY as well as the limits shown on the Drawings and/or conditions described.
- C. Repair or replace any damages to pre-construction condition or better.

1.08 PRIVATE PROPERTY CONVENIENT FOR THE WORK

- A. Obtain written agreements from private property owners for additional areas deemed convenient but not necessary for the Work and submit a copy of the agreement to Construction Manager. Such written agreements shall comply with all City of Dyersburg ordinances and restrictions.

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SEWER SYSTEM IMPROVEMENTS

- B. Make arrangements for temporary use of private properties and indemnify and hold harmless CITY against claims or demands arising from use of properties outside of rights-of-way.
- C. Repair or replace any damages to pre-construction condition or better.

1.09 LOCAL STREETS AND ALLEYS

- A. Secure permits and obtain operational procedures from the City of Dyersburg before closing or starting construction within rights-of-way of any public street or alley.
- B. Construct and maintain temporary detours, ramps, and roads and traffic control to provide traffic flow when use of local roads or streets is closed by necessity of the Work.
- C. Provide mats or other means to prevent overloading or damage to existing roadways from tracked or heavy equipment.
 - A. Maintain ingress/egress to driveways or entrances at all times.

1.10 STATE AND FEDERAL RIGHTS-OF-WAY

- A. Where the Work encroaches upon rights-of-way under the jurisdiction of the Tennessee Department of Transportation (TDOT), CITY will obtain necessary permits, approvals, contracts, and/or easements. This applies to new facilities and the rehabilitation, replacement, or new construction of sewer lines, water lines, stormwater improvements and force mains.
- B. Obtain permits and approvals where sewer or water main rehabilitation Work encroaches upon rights-of-way under the jurisdiction of TDOT unless said rights-of-way are included in the bid documents.
- C. Comply with stipulations outlined in agreements between TDOT and CITY and in permit conditions.

1.11 RAILROAD RIGHTS-OF-WAY

- A. Where the Work encroaches upon the rights-of-way of a Railroad Company, CITY may obtain necessary permits, approvals, contracts, and/or easements.
- B. Comply with stipulations outlined in agreements between the Railroad Company and CITY.
- C. Furnish insurance documentation and satisfy requirements of the Railroad Company prior to entering the railroad rights-of-way.
- D. Pay expenses and/or charges for the permitting, monitoring, flagging, inspection, and/or other services assessed by the Railroad Company.

1.12 OTHER UTILITIES AND OTHER ENTITIES

- A. Where the Work encroaches upon the rights-of-way and/or jurisdictional authorities of other utilities or entities, CITY will obtain necessary preliminary permits, approvals, contracts,

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and/or easements as presented in the Bidding Documents. This applies to new facilities and the rehabilitation, replacement, or new construction of sewer lines, water lines, stormwater improvements and force mains.

- B. Secure and obtain Final Permits, approvals, rights of entry as required.
- C. Comply with stipulations outlined in agreements between other utilities or entities and CITY.
- D. Satisfy requirements of other utilities or entities prior to entering rights-of-way.
- E. Pay expenses and/or charges for the permitting, monitoring, flagging, inspection, and/or other services assessed by other utilities or entities.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 14 14
CONTROL OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Coordination of the Work
- C. Interference with Existing Works
- D. Protecting and Relocating Existing Structures and Utilities
- E. Property Care and Protection
- F. Occupying Private Land
- G. Pipe Locations
- H. Dimensions for Existing Structures
- I. Open Excavations
- J. Test Pits
- K. Traffic Control
- L. Parking Control
- M. Project Signs
- N. Weather Protection
- O. Security Program
- P. Security Badges
- Q. Security Fence

1.02 RELATED SECTIONS

- A. Division 01 – Division 33

1.03 COORDINATION OF THE WORK

- A. The Contractor shall be solely responsible for coordinating all Work. The Contractor shall supervise, direct, and cooperate fully with all subcontractors, manufacturers, fabricators,

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suppliers, distributors, installers, testing agencies, and all others whose services, materials, or equipment are required to ensure that the Work is completed within the Contract Time.

- B. The Contractor shall cooperate fully with CITY and its representatives and all other contractors employed on the Work including utility service companies to effect proper coordination and progress to complete the Project on schedule and in proper sequence.
- C. Other major construction contracts may be in progress at the Site and may impact the Work. The Contractor shall plan and coordinate their Work to coordinate with other contractors' work. The Contractor shall conduct and arrange its Work so as not impede or interfere with CITY's operation of the facility or the work by other Contractors working at the Site in the same or adjacent areas.
- D. The Contractor shall allow CITY or its representatives and other Project contractors or their representatives with access to the Contractor's work areas to complete any work necessary for the utility's normal operation and/or to complete other contractor's work. A 24-hour notice shall be provided for non-emergency situations whenever possible.
- E. Contractor shall prepare layout and coordination drawings that shall supplement the Contract Documents and the working and shop drawings, as required, to coordinate various trades' work. Layout and coordination drawings shall be submitted for approval upon request by the Construction Manager.

1.04 INTERFERENCE WITH EXISTING WORKS

- A. The Contractor shall, at all times, conduct their operations so as to interfere as little as possible with existing works.
- B. All Work connecting with, cutting in to, and reconstructing existing pipes or structures shall be planned so that it interferes with the existing facility's operation for the shortest possible time and when the demands on the facility best permit such interference even though it may be necessary to work outside normal working hours to meet these requirements. Before starting work that will interfere with the existing facility's operation, the Contractor shall do all possible preparatory work and shall ensure that all tools, materials, and equipment are made ready and are at hand.
- C. The Contractor shall have no claim for additional compensation due to a delay or inconvenience in adapting their operations to the need for continuous sewage flow.
- D. The Contractor shall have no claim for additional compensation due to a delay or inconvenience in adapting their operations to the need for continuous wastewater treatment at an existing plant.
- E. The Contractor shall have no claim for additional compensation due to a delay or inconvenience in adapting their operations to the need of the pumping station.
- F. The Contractor shall have no claim for additional compensation due to a delay or inconvenience in adapting their operations to the need for wastewater detention at existing equalization facilities.

1.05 PROTECTING AND RELOCATING EXISTING STRUCTURES AND UTILITIES

- A. The Contractor shall assume full responsibility for protecting the following including but not limited to: buildings, structures, and utilities—public or private including poles, signs, services to

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buildings, utilities in the street, gas pipes, petroleum pipes, water pipes, hydrants, sewers, force mains, drains, and electric and telephone cables whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's operations shall be repaired by the Contractor at their expense.

- B. Assistance shall be given to the Contractor in determining the location of existing services to the degree normally provided by the utility owner. The Contractor, however, shall bear the full responsibility for obtaining all locations of underground structures and utilities including existing water services, drain lines, and sewers. Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by the Contractor.
- C. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be part of the Work under the Contract, and all costs in connection therewith shall be included in the Total Price Bid in the Bid Form.
- D. If, in CITY's opinion, permanent utility relocation is required, CITY may direct the Contractor in writing to perform the Work. Work so ordered shall be paid at the Contract unit prices, if applicable, or as extra work. If relocating a privately owned utility is required, the owner shall notify the utility to perform the work and request that the work be performed as expeditiously as possible. The Contractor shall fully cooperate with the property owner and utility and shall have no claim for delay due to such relocation.
- E. The Contractor shall notify all utility companies in writing at least 72 hours (excluding Saturdays, Sundays and legal holidays) before excavating in any public way. The Contractor shall also notify Tennessee One-Call, telephone number 811, at least 72 hours prior to starting Work.
- F. Supplying Equipment, Plants and Appurtenances

Furnish construction equipment and any mobile plants or appurtenances that shall be efficient, appropriate, and large enough to secure a satisfactory Work quality and a progress rate to ensure that the Work is completed within the Contract time. If at any time such supplied equipment, mobile plants, or appurtenances appear to the Construction Manager to be inefficient, inappropriate, or insufficient for securing the work quality required or for producing the aforesaid progress rate, the Contractor may be required to substantiate the current equipment, plants, and appurtenances that the chosen items shall allow the Contractor to meet the Contract's schedule requirements. The Construction Manager's failure to give such notification shall in no way relieve the Contractor from their obligations to secure the required Work quality and progress rate.

1.06 PROPERTY CARE AND PROTECTION

- A. The Contractor shall be responsible for preserving all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in executing the Work on the Contractor's part, such property shall be restored by the Contractor, at its expense, to a condition similar or equal to that existing before the damage was done, or the Contractor shall make good the damage in another manner acceptable to the Construction Manager.

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1.07 OCCUPYING PRIVATE LAND

- A. The Contractor shall not (except after written consent from the proper parties) enter or occupy with workers, tools, materials, or equipment any land outside of CITY's rights-of-way, easements, or property. A copy of the written consent shall be given by the Contractor to the Construction Manager prior to entering or occupying the property.

1.08 DIMENSIONS FOR EXISTING STRUCTURES

- A. Where the dimensions and locations for the existing structures are important for installing or connecting any Work part, the Contractor shall verify such dimensions and locations in the field prior to fabricating any material or equipment that depends on such information's correctness. Any material or equipment fabricated to incorrect dimensions shall be replaced at the Contractor's expense.

1.09 PIPE LOCATIONS

- A. Exterior pipelines shall be located substantially as indicated on the Drawings, but the right is reserved for CITY, acting through the Engineer and/or Construction Manager, to make such modifications in location as may be found desirable to avoid interference with existing structures or for other reasons.
- B. Small interior piping is diagrammatically indicated on the Drawings, and the exact location is to be determined in the field. Piping shall be arranged in a neat, compact, and workmanlike manner, with a minimum of crossing and interlacing to prevent interfering with equipment or access ways, and, in general, without diagonal runs.

1.10 DIMENSIONS FOR EXISTING STRUCTURES

- A. Where the dimensions and locations for the existing structures are important for installing or connecting any Work part, the Contractor shall verify such dimensions and locations in the field before fabricating any material or equipment that depends on such information's correctness.

1.11 OPEN EXCAVATIONS

- A. In accordance with Dyersburg City Water and Light, Contractor Safety Book, all open excavations shall be adequately safeguarded by providing temporary barricades, fencing, caution signs, lights, and other means to prevent accidents to persons and damage to property.
- B. The Contractor shall take precautions to prevent injury to the public due to open trenches or manholes. All trenches, excavated material, equipment, or other obstacles that could be dangerous to the public shall be fully barricaded.

1.12 TRAFFIC CONTROL

- A. The Contractor shall keep all streets and traffic ways within the Project limits and adjacent areas in such condition as to adequately accommodate traffic and pedestrian passage during the construction period unless otherwise approved by CITY. The Contractor shall keep roadway portions being used by the City and public travelers free from irregularities and obstructions that

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may represent a hazard to CITY's operations and in such condition that traffic shall be adequately accommodated.

- B. The Contractor shall provide maintenance and protection for traffic on public roadways in strict accordance with CITY and the Tennessee Department of Transportation (TDOT) regulations and permit conditions.
- C. For controlling moderate traffic, the Contractor shall provide an adequate number of flag persons employed at no additional expense to CITY.
- D. As required by CITY or the Tennessee Department of Transportation, whenever and wherever traffic is sufficiently congested or public safety is endangered, the Contractor shall furnish uniformed police officers when required to direct traffic and keep traffic off the roadway or highway area affected by the construction operations. Such officers shall be in addition to the security guards required under other Contract provisions.
- E. Whenever and wherever traffic is sufficiently congested or public safety is endangered, the Contractor, as required in the Construction Manager's opinion, shall furnish uniformed special officers to direct traffic and to keep traffic off the roadway or highway area affected by its construction operations.
- F. The cost for such special officers shall be invoiced under the appropriate item in the Bid. If special officers qualified to direct traffic are direct employees, the Contractor shall ensure that these special officers are included under its Workers' Compensation Policy. In acquiring their Workers' Compensation coverage, the Contractor shall specifically include all such special officers in the workers' classification. If a security/traffic control firm provides these services as a subcontractor, the Contractor shall ensure that the firm has Workers' Compensation coverage. In addition, the Contractor shall make all necessary payments for such special officers.
- G. The employment or presence of traffic flag persons, special officers, or police shall in no way relieve the Contractor from any responsibility or liability under the Contract Document terms.
- H. Signs, Signals and Devices
 - 1. Post-mounted and Wall-mounted Traffic Control and Informational Signs. As approved by the authority having jurisdiction
 - 2. Automatic Traffic Control Signals. As approved by the authority having jurisdiction
 - 3. Traffic Cones and Drums, Flares, and Lights. As approved by the authority having jurisdiction.
 - 4. Flag person Equipment. As required by the authority having jurisdiction
- I. Flares and Lights. Use flares and lights during low visibility hours to delineate traffic lanes and to guide traffic.
- J. Haul Routes
 - 1. Consult with the authority having jurisdiction to establish public thoroughfares to be used for haul routes and site access.

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2. Provide traffic control at critical haul route areas to regulate traffic and to minimize interference with public traffic.
3. Comply with all roadway haul weight restrictions to prevent roadway damage.

K. Traffic Signs and Signals

1. Provide signs at approaches to the Site and onsite, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
2. Provide, operate, and maintain automatic traffic control signals to direct and maintain orderly traffic flow in areas under the Contractor's control and in areas affected by the Contractor's operations.
3. Relocate as Work progresses to maintain effective traffic control.
4. The Contractor shall coordinate removing and replacing traffic loops and signals if required to perform the Work and at no additional cost to CITY.

L. Removal

1. Remove equipment and devices when no longer required.
2. Repair damage caused by the installation.
3. Remove post settings to a 2-foot depth.

1.13 SECURITY PROGRAM

- A. The Contractor shall execute a security program to protect the Work, existing premises, and CITY's operations from theft, vandalism, and unauthorized entry. The Contractor shall maintain the program throughout the construction period until substantial completion has been awarded.
- B. The Contractor shall, at all times, monitor and control persons' access to the Project Site. Specifically, the Contractor shall:
 1. Restrict persons and vehicles from entering into Project site
 2. Allow entrance only to authorized persons with proper identification
 3. Maintain a log of workers and visitors that will be available upon request
- C. The Contractor shall control and prevent non-authorized persons and vehicles from entry. CITY and its representatives shall be allowed access to the Project Site for work associated with treatment, operations, and maintenance.

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PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

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SECTION 01 20 00

APPLICATION FOR PAYMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Contractor's Responsibilities
- C. Preparation of Application for each Progress Payment
- D. Substantiating Data for Progress Payments
- E. Submittal Procedures
- F. Sample Contractor's Payment Request form

1.02 RELATED SECTIONS

- A. Section 01 29 73 – Schedule of Values

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. Submit applications for payments typed on Contractor's Payment Request forms provided by the Construction Manager. Provide itemized data on continuation sheets showing format, schedules, line items, and values. Submit applications to the Construction Manager for payment in accordance with the schedule established by the Contract Documents.

1.04 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

- A. A Contractor's Payment Request form may be obtained from the Construction Manager.
- B. Contractor's Payment Request Form:
 - 1. Complete the required information on the Contractor's Payment Request form.
 - 2. Execute the certification with the signature of a responsible officer of Contractor. An original signature should appear on each copy submitted.
 - 3. For payment of stored materials, the original paid invoices must be attached to the Contractor's Payment Request form.

1.05 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When requested to provide substantiating data, submit suitable information with a cover letter identifying the following:

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1. Project
 2. Contractor's Payment Request number and date
 3. Detailed list of enclosures
 4. For stored products:
 - a. Item number and identification as shown on application
 - b. Description of specific material
 5. All documentation required in the Purchase Agreement "Contract Terms and Conditions" with the Request for Payment.
- B. Submit one copy of the data required in Paragraph 1.05.A and cover letter for each copy of a Contractor's Payment Request.
- C. As a prerequisite for monthly progress payments, the Contractor shall make available to the Construction Manager the Project Records including the Contract Drawings marked up to record actual construction.

1.06 SUBMITTAL PROCEDURES

- A. Submit the Payment Request on or before the tenth of each month.
- B. Submit three (3) hard copies of each payment application.
- C. When the Contractor's Request for Payment is determined to be properly completed and acceptable, the payment application will be transmitted by the Construction Manager to CITY for approval and payment.

1.07 ALLOWANCE REIMBURSEMENT AND FINAL PAYMENT TIME CONSTRAINTS

- A. Compensation reimbursement under contract Allowances, such as for Traffic Control, shall be made only for documented work submitted on periodic payment requests and within 100 days after the month of performance.
- B. Requests for reimbursement in excess of the contract Allowance amount shall only be considered by CITY if requested in writing within 10 calendar days after the month of the performance of the work.
- C. A Final Pay Application, complete with final quantities and supporting documentation for lump sum items, unit price items, allowance items, and change management items shall be submitted within 90 calendar days after the date of Substantial Completion.

PART 2 – PRODUCTS

NOT USED

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PART 3 – EXECUTION

NOT USED

PART 4 – FORMS

1. Sample form provided for a Contractor's Payment Request

CONTRACTOR'S PAYMENT REQUEST																													
PROJECT: _____ ENGINEER: _____ CONTRACTOR: _____ CIP PROJ NO: _____ TO OWNER: _____ ATTENTION: _____ MWS PROJ. NO: _____	PAYMENT APPLICATION NO: _____ PAYMENT APPLICATION DATE: _____ PERIOD OF PERFORMANCE: _____ to _____ MWS ORDER NO: _____ MWS CONTRACT NO: _____ CONTRACTOR PROJ NO: _____ REMIT TO: _____ PHONE: _____ FED TAX ID: _____																												
THIS REQUEST FOR PAYMENT IS FOR AMOUNT SHOWN BELOW IN CONNECTION WITH THE CONTRACT. CONTINUATION SHEET IS ATTACHED. THE PRESENT STATUS OF THE ACCOUNT FOR THIS CONTRACT IS AS FOLLOWS:																													
<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 80%;">Current Period Amount Earned for Construction:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Current Amount for Stored Materials:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Less Retainage of 3%:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Total amount Payable due this period:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Previous Amount Earned for Construction:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Previous Amount for Stored Materials:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Previous Retainage Billed:</td><td style="text-align: right;">\$0.00</td></tr> </table>	Current Period Amount Earned for Construction:	\$0.00	Current Amount for Stored Materials:	\$0.00	Less Retainage of 3%:	\$0.00	Total amount Payable due this period:	\$0.00	Previous Amount Earned for Construction:	\$0.00	Previous Amount for Stored Materials:	\$0.00	Previous Retainage Billed:	\$0.00	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 80%;">Original Contract Amount:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Net Change by Change Order:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Current Contract Amount:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Total Amount Earned for Construction:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Total Amount for Stored Materials:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Total Retainage:</td><td style="text-align: right;">\$0.00</td></tr> <tr><td>Total Contract Remaining:</td><td style="text-align: right;">\$0.00</td></tr> </table>	Original Contract Amount:	\$0.00	Net Change by Change Order:	\$0.00	Current Contract Amount:	\$0.00	Total Amount Earned for Construction:	\$0.00	Total Amount for Stored Materials:	\$0.00	Total Retainage:	\$0.00	Total Contract Remaining:	\$0.00
Current Period Amount Earned for Construction:	\$0.00																												
Current Amount for Stored Materials:	\$0.00																												
Less Retainage of 3%:	\$0.00																												
Total amount Payable due this period:	\$0.00																												
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Previous Amount for Stored Materials:	\$0.00																												
Previous Retainage Billed:	\$0.00																												
Original Contract Amount:	\$0.00																												
Net Change by Change Order:	\$0.00																												
Current Contract Amount:	\$0.00																												
Total Amount Earned for Construction:	\$0.00																												
Total Amount for Stored Materials:	\$0.00																												
Total Retainage:	\$0.00																												
Total Contract Remaining:	\$0.00																												
THE UNDERSIGNED CONTRACTOR CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, INFORMATION AND BELIEF, THE WORK COVERED BY THIS REQUEST FOR PAYMENT HAS BEEN COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THAT ALL AMOUNTS HAVE BEEN PAID BY HIM FOR WORK WHICH PREVIOUS REQUESTS FOR PAYMENT WERE ISSUED AND PAYMENTS RECEIVED FROM THE OWNER, AND THAT THE CURRENT AMOUNT SHOWN HEREIN IS NOW DUE.																													
CONTRACTOR: _____ BY: _____ DATE: _____																													
IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND BASED ON ON-SITE OBSERVATIONS AND THE DATA COMPRISING THE ABOVE INVOICE, THE CONSTRUCTION MANAGER (CM) CERTIFIES TO THE OWNER THAT TO THE BEST OF THE CM'S KNOWLEDGE, INFORMATION AND BELIEF, THE WORK HAS PROGRESSED AS INDICATED, THE QUALITY OF THE WORK IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND THE CONTRACTOR IS ENTITLED TO PAYMENT OF THE AMOUNT CERTIFIED.																													
CONSTRUCTION MANAGER: _____ OWNER _____ BY: _____ DATE: _____ AMOUNT CERTIFIED: _____ SCM _____ CONTRACTOR																													
OWNER: _____ BY: _____ DATE: _____																													
THIS INVOICE IS NOT NEGOTIABLE. IT IS PAYABLE ONLY TO THE PAYEE NAMED HEREIN AND ITS SUCCESSORS. PAYMENT AND ACCEPTANCE ARE WITHOUT PREJUDICE TO ANY RIGHTS OF THE OWNER OR CONTRACTOR UNDER THEIR CONTRACT.																													

END OF SECTION

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SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Contractor's Responsibilities
- C. Substitution Requirements
- D. Acceptable Equivalent Products, Materials and Equipment
- E. Quality Assurance
- F. Coordination
- G. Substitution Requests

1.02 RELATED SECTIONS

- A. Section 01 33 00 – Submittals
- B. Section 01 43 00 – Quality Requirements

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading "no like, equivalent, "or equal" item, or no substitution is permitted," other items of material or equipment or material or equipment of other Suppliers may be submitted to the Construction Manager for review under the circumstances described in this Section.
- B. If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, the Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by CITY. The Contractor shall submit sufficient information to allow CITY, in the CITY's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by the CITY will be similar to those provided in Paragraph 3.01.
- C. "Or Equal" Items. If, at CITY's discretion, an item of material or equipment proposed by the Contractor is functionally equal to that named and is sufficiently similar so that no change in the related Work will be required, it may be considered by CITY as an "or equal" item in which case the review and approval of the proposed item may, at CITY's sole discretion, be accomplished

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without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if, in the exercise of reasonable judgment, it is determined that:

1. It is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics
 2. It will reliably perform the intended function at least equally well and achieve the results imposed by the design concept of the completed Project as a functioning whole
 3. It has a proven record of performance and availability of responsive service and
 4. The Contractor certifies that, if approved and incorporated into the Work,
 - a. There will be no increase in cost to CITY or increase in Contract Times and
 - b. Any cost savings will be available to CITY and
 - c. It will conform substantially to the detailed requirements of the item named in the Contract Documents
- D. Substitutions. If, at CITY's sole discretion, an item of material or equipment proposed by the Contractor does not qualify as an "or equal" item under Paragraph C, it will be considered a proposed substitute item.
1. The Contractor shall submit sufficient information as described below to allow a determination about whether or not the item of material or equipment proposed is essentially equivalent to that named and is an acceptable substitute therefore. Requests for the review of the proposed substitute items of material or equipment will not be accepted from anyone other than the Contractor.
 2. The requirements for review as set forth in this Specification are in addition to additional stipulations CITY may decide are appropriate under the circumstances.

1.04 SUBSTITUTION REQUIREMENTS

- A. Any material item, equipment, specific means, method, technique, sequence, or procedure of construction that the Contractor wants to substitute must follow this Section's requirements.
- B. The Contractor may choose equipment from a manufacturer of an acceptable equivalent product; however, this shall be treated as a substitution, and the Contractor must follow the requirements in this Section. If the Contractor chooses to substitute equipment from someone other than a named manufacturer, any additional costs required to accommodate such equipment shall be made without a change in the Contract Price or Contract Time and at no additional cost to CITY.
- C. CITY reserves the right to determine when proprietary items have no equivalency and when the operations' uniformity, parts' interchangeability, standard parts inventory, etc., are in CITY's best interest.

1.05 ACCEPTABLE EQUIVALENT PRODUCTS, MATERIALS AND EQUIPMENT

- A. Requests for equivalency review shall be considered when sufficient information as described herein has been submitted to allow a complete review.
- B. Such requests shall not be accepted from anyone other than the Contractor. Such submission must be made prior to purchasing, fabricating, manufacturing, or using the equivalent items under consideration.
- C. The Contractor is responsible for all delays caused by their failure to submit complete and accurate information with any request for approval of any material, article, system, or subsystem as an equivalent.
 - 1. Contractor Risk
 - a. If the Contractor includes in their bid or later proposes any material, product, or equipment that they consider equivalent to that specified, the Contractor assumes all risks associated with the proposed equivalent item's acceptance or rejection.
 - b. The Contractor shall have no right to make a claim based on their bid that included a proposed equivalent work item and resulted in a lower bid amount for said item or lower total bid.
 - 2. Equivalency
 - a. An item shall be considered equivalent to the item specified if:
 - 1) It is equal or better in design and strength in all subparts, quality, reliability and durability, operation, maintenance, and serviceability, as applicable, and
 - 2) It is equal or better in specified parameters of performance in all respects for the specific function indicated in the Contract Documents.
 - 3. Supplemental Requirements
 - a. The costs associated with an equivalency review shall be paid by the Contractor through a deduction to the Contract Amount.
 - b. Any tests required by CITY to establish quality and performance standards shall be promptly conducted by or through the Contractor at no additional cost.
 - c. The Contractor shall submit any additional data requested for the equivalency review.
 - d. The Contractor shall satisfactorily accomplish all changes, including any engineering associated with the use of equivalent items, at no additional cost.
 - e. The Contractor shall have no right to appeal any decision by CITY rejecting the equivalency of any item.

1.06 QUALITY ASSURANCE

- A. Substitutions Compatibility. The Contractor shall investigate and document the compatibility of the proposed substitution with related products and materials. At no cost to CITY, the Contractor shall engage a qualified testing agency to perform the compatibility tests recommended by the manufacturer.
- B. CITY may require the Contractor to furnish, at the Contractor's expense, a special performance guarantee or other surety with respect to any substitute.

1.07 COORDINATION

- A. The Contractor shall revise or adjust the affected Work, as necessary, to integrate the Work for the approved substitutions.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.01 SUBSTITUTION REQUESTS

- A. Submit a copy of each request for consideration in accordance with the Contract Documents. Identify the product, fabrication, or installation method to be replaced. Include the Specification Section numbers and titles and Drawing numbers and titles.
- B. Documentation. Show compliance with the requirements for substitutions and the following, as applicable:
 - 1. Provide justification for using the proposed equivalent item including evidence, as applicable, that the Contract-specified material, product, or equipment is unobtainable or unobtainable within an acceptable time for Contract completion.
 - 2. Submit a statement indicating why the specified product, fabrication, or installation cannot be provided, if applicable.
 - 3. Supply coordination information that will be needed as a result of the change or revision including a list with changes or revisions to other parts of the Work and to the construction performed by CITY and separate contractors who shall be necessary to accommodate the proposed substitution.
 - 4. Provide a document comparing the proposed substitution's qualities in detail with those of the Work specified. Include an annotated copy of the applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, electrical characteristics, visual effect, specified sustainable design characteristics, warranties, and specific features and requirements indicated and specified. Indicate deviations, if any, from the Work specified.

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5. Submit product data including drawings and descriptions for the products and fabrication and installation procedures.
 6. Supply samples, when applicable or requested.
 7. Provide certificates and qualification data, when applicable or requested.
 8. Furnish a list of similar installations for completed projects including the project names and addresses and the names, telephone numbers, and addresses for engineers and owners, when requested.
 9. Submit material test reports from a qualified testing agency indicating and interpreting test results for compliance with the requirements indicated, when requested.
 10. Supply research reports evidencing compliance with the building codes in effect for the Project, when requested.
 11. Provide a detailed comparison of the Contractor's construction schedule using the proposed substitution with products specified for the Work including the effect on the overall Contract Time.
 12. Submit cost information including a change proposal, if any reduction, in the Contract Price.
 13. Furnish a list of any effects that the proposed change shall have on CITY's operation and maintenance costs, when applicable.
 14. Supply a Contractor's certification stating, "The proposed substitution complies with the requirements of the Contract Documents except as indicated in this substitution request, is compatible with related materials, and is intended for the applications indicated."
 15. The Contractor shall not be entitled to any additional payment or time that may subsequently become necessary because the proposed substitution failed to produce the indicated results.
- C. If necessary, additional information or documentation shall be requested for evaluation within 10 days after receiving a request for substitution. The Construction Manager shall notify the Contractor in writing about CITY's acceptance or rejection of the proposed substitution within 21 days after receiving the request or within seven days after receiving additional information or documentation, whichever is later. If the Contractor does not receive a response in the allotted time, the Contractor shall use the item of material or equipment specified.

END OF SECTION

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SECTION 01 26 63
CONTRACT CHANGE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Definitions
- C. Authorized Changes in the Work
- D. Unauthorized Changes in the Work
- E. Claims
- F. Allowable Costs for Authorized Changes
- G. Unit Price Work
- H. Costs for Compensable Schedule Impact
- I. Change Proposals
- J. Contractor's Price Proposals
- K. Preparation of Change Orders, Field Authorizations and Change Authorizations
- L. Correlation with Contractor's Submittals

1.02 RELATED SECTIONS

- A. Section 01 11 00 – Summary of Work

1.02 DEFINITIONS

- A. Minor Changes. Minor Changes are minor variations from the requirements of the Contract Documents that do not involve an adjustment in the Contract Price or the Contract Time and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
- B. Field Authorizations. Field Authorizations are those changes that may be made in the field with prior written approval or modification to the contract.
- C. Change Authorizations. Change Authorizations are changes that are out of scope or that exceed the Field Authorization limit on a single occurrence or that equal or exceed the pre-defined Field Authorization allowance.

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- D. Change Orders. Change Orders are formal modifications to the contract used when the change does not meet the criteria of Field Authorizations or Change Authorizations or the cumulative changes result in an increase that exceeds pre-established limits.
- E. Claims. Claims are a demand or assertion by CITY or the Contractor seeking an adjustment of Contract Price or Contract Times or both or other relief with respect to the terms of the Contract.

1.03 AUTHORIZED CHANGES IN THE WORK

- A. At any time, CITY may order additions, deletions, or revisions in the Work by a Change Order or other appropriate documents as described in paragraph 1.03. Upon the receipt of any such document, the Contractor shall promptly proceed with the Work involved that will be performed under a Field Authorization, Change Authorization, or Change Order.
- B. Payment shall be made for approved Field Authorizations and/or Change Authorizations upon completion of the additional Work up to the Contract Price.
- C. Whenever the amount of the Field Authorization(s) equals the Field Allowance, a Change Authorization will be prepared. The Purchasing Agent may then authorize additional Field Authorizations until the Field Allowance is again equaled, at which time another Change Authorization must be submitted, and approval for additional Field Authorizations must be obtained.
- D. No payment will be made by CITY for the cumulative Work, approved Field Authorizations, and /or approved Change Authorizations in excess of the Contract Price without an executed Change Order that modifies the terms of the Contract
- E. Authorized minor changes shall be documented by formal written requests and the Work shall proceed, but no change to the contract documents shall be required.
- F. Change Order Limits
 - 1. Change Orders shall be prepared whenever the change does not meet the criteria for a change to be ordered for Field Authorization or Change Authorization.
 - 2. Change Orders shall be prepared when the Price of the Change or cumulative total of Change Authorizations equals ten percent (10%) of the Contract Price.
 - 3. Prior to the final payment, a Change Order shall be prepared that reflects all changes to the Contract Price resulting from Field Authorizations or Change Authorizations not already reflected in a previous Change Order.

1.04 UNAUTHORIZED CHANGES IN THE WORK

The Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified, or supplemented by a Field Authorization, Change Authorization, or Change Order.

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1.05 CLAIMS

- A. Written notice stating the general nature of each Claim shall be delivered to CITY within fifteen (15) days after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim.
- B. Failure to provide a notice of Claim within said fifteen (15) day period, or failure to provide a complete Claim submittal within the time required in accordance with this Section, shall bar the Claim.
- C. A comprehensive determination of the amount or extent of the Claim with supporting data shall be delivered to the Construction Manager within thirty (30) days of providing formal notice.
- D. A Claim for an adjustment in the Contract Price shall be prepared in accordance with the provisions for calculating the costs presented in paragraph 1.07 below. The decision of CITY in evaluating the merit of the Claim shall be final, subject to local codes and regulations.
- E. No Claim from the Contractor's subcontractor may be submitted without a complete written Claim analysis including an independent cost proposal.
- F. For all Contractor Claims seeking an increase in the Contract Price or Contract Times, the Contractor shall submit with the Claim an affidavit certifying that:
 - 1. The Claim is made in good faith, and the amount claimed accurately reflects the adjustments in the Contract Price or Contract Time for which the Contractor believes that CITY is liable and covers all direct, supplemental, indirect consequential, serial and cumulative costs and delays to which the Contractor is entitled as a result of the occurrence of the claimed event;
 - 2. Supporting Cost and Pricing Data are current, accurate, and complete and represent the best of the of the Contractor's knowledge and belief.
- G. All Claims for time shall be supported by an analysis of the Progress Schedule detailing the impact of the claimed Work.

1.06 ALLOWABLE COSTS FOR AUTHORIZED CHANGES

- A. Costs Included. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs specifically excluded in this Paragraph, and shall include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by CITY and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits including social security contributions; unemployment, excise, and payroll taxes; workers' compensation; health and retirement benefits; bonuses; and sick leave, vacation, and applicable holiday pay.

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2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage, and Suppliers' field services required.
3. Payments made by Contractor to subcontractors for Work performed by subcontractors
4. Supplemental costs as approved by CITY including special consultants, transportation, expenses, taxes, fuel costs, and additional bond or insurance premiums

B. Costs Excluded

1. Payroll costs and other compensation of the Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 1.07.A.1 above.
2. Expenses of the Contractor's principal and branch offices other than the Contractor's office at the Site.
3. Any part of the Contractor's capital expenses including interest on the Contractor's capital employed for the Work and charges against the Contractor for delinquent payments.
4. Costs due to the negligence of the Contractor or any subcontractor including the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 1.07.A above.

C. Contractor's Fee

1. Where the Contract Documents provide that all or part of the Work is to be done on a Unit Price Basis and the change may be quantified in additional units, each unit price will be deemed to include an amount considered by the Contractor to be adequate to cover the Contractor's overhead and profit for each separately identified item.
2. Where the Contract Documents are structured for all of the Work to be performed on the basis of cost-plus, the Contractor's fee for additional Work shall be determined at the rates set forth in the Agreement.
3. In all other instances, the Contractor's shall receive a fixed fee for additional Work calculated based upon the following percentages:
 - a. 15% of direct labor, materials, and equipment costs defined in paragraphs 1.07.A.1 and 1.07.A.2 above
 - b. 5% of payments made to first tier subcontractors as defined in paragraph 1.07.A.3 above. Note that, in the event that multiple tiers of subcontracts are involved, the

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subcontractor actually performing the Work is entitled to a fee of 15% of its direct labor, equipment, and material costs, and each higher tier culminating in the General Contractor is entitled to a percentage of 5% of the lowest tier subcontractor's price.

- c. No fee is due for the supplemental costs or excluded costs defined in paragraphs 1.07.A.4 and 1.07.B respectively.

1.08 UNIT PRICE WORK

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by the Construction Manager in accordance with Section 01 29 01, Measurement and Payment (Unit Prices).
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover the Contractor's overhead and profit for each separately identified item. Total compensation will be negotiated based upon an auditable substantiation of the Contractor's financial impact.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 CHANGE PROPOSALS

- A. CITY may initiate changes by submitting a Request for Proposal (RFP) to the Contractor. The request will include:
 - 1. A detailed description of the change, products, and location of the change in the project
 - 2. Supplementary or revised Contract Drawings and Specifications
 - 3. The projected time span for making the change and a specific statement as to whether overtime work is, or is not, authorized
 - 4. Such a request is for information only and is not an instruction to execute the changes or to stop the Work in progress.
- B. The Contractor may initiate changes by submitting a written change request containing:
 - 1. A description of the proposed changes
 - 2. A statement of the reason for proposing the changes

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3. A statement of the effect on the Contract Price and the Contract Time
4. A statement of the effect on the Work of CITY, other utilities or other Contractors
5. Documentation supporting any change in Contract Price or Contract Time

3.02 CONTRACTOR'S PRICE PROPOSALS

- A. Nothing contained herein precludes the Contractor from requesting or proposing a change in the Work in accordance with Paragraph 3.01.B. above.
- B. The Construction Manager will evaluate the Contractor's change requests. If it is determined that a proposed change has validity, the Construction Manager will request a price proposal from the Contractor.
- C. The Contractor's price proposals shall become due within fifteen (15) days after the receipt of CITY's RFP or the Construction Manager's recommendation for the Contractor to proceed with submitting a price proposal for the Contractor's proposed changes (unless CITY allows an additional period of time). Any delay in submission will not justify or constitute a basis for an increase in Contract Price or Contract Time.
- D. The Contractor's price proposal shall certify in writing that the amounts included cover all direct, indirect, supplemental, consequential, serial, and cumulative costs and delays, as applicable, and that those delay costs were or will be incurred. These costs include the following:
 1. Labor required
 2. Equipment required
 3. Products required
 - a. Recommended source of purchase and unit cost
 - b. Quantities required
 4. Taxes, insurance, and bonds
 5. Credit for the Work deleted from Contract, similarly documented
 6. Overhead and profit
 7. Justification for any change in Contract Time

3.03 PREPARATION OF CHANGE ORDERS, FIELD AUTHORIZATIONS AND CHANGE AUTHORIZATIONS

- A. CITY will prepare each change document with technical requirements provided by the Construction Manager.

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- B. Change Orders, Field Authorizations, and Change Authorizations will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
- C. Change Orders will provide an accounting of the adjustment in the Contract Price and in the Contract Time.
- D. Field Authorizations and Change Authorizations will describe the changes in the Work and/or memorialize agreements.
- E. The Contractor shall promptly sign, date, and return the original Change Order.

3.04 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Revise the Schedule of Values and Contractor's Payment Request forms to record each change as a separate item of Work. The Contract Price will be changed only when a change order has been fully executed by both CITY and the Contractor and to record the adjusted Contract Price.
- B. Revise the Construction Schedule monthly to reflect each change in Contract Time.
 - 1. Revise sub-schedules to show changes for other items of Work affected by the changes.
- C. Upon completion of Work, the Contractor shall enter pertinent changes in the Project as-built.

END OF SECTION

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SECTION 01 29 01

MEASUREMENT AND PAYMENT (UNIT PRICES)

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Measurement and Payment – General
- C. Bid Item 1-2 – Lump Sum Items

1.02 RELATED SECTIONS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 33 00 – Submittals
- C. Section 01 29 73 – Schedule of Values
- D. Division 01 – Division 33

1.03 MEASUREMENT AND PAYMENT – GENERAL

- A. Whenever units of measure are mentioned in this Section, it shall be interpreted to mean the unit installed in accordance with the plans and specifications and ready for use. Include in prices all costs for labor, materials, tools, equipment, supervision, testing, excavation, and other incidentals to complete the Work.
- B. The Construction Manager will verify all measurements and compute the quantities for payment.
- C. Provide any necessary equipment and/or skilled workers to the Construction Manager for assistance with calculating quantities.
- D. The prices for those items that involve excavation shall include compensation for the disposal of surplus excavated material, handling water, trench protection and the installation of all necessary sheeting, shoring and bracing.

1.04 LUMP SUM COMPONENTS

- A. The lump sum payment will be full compensation for completing the Work in accordance with the Contract plans and specifications. The lump sum payment will be made in accordance with a well-balanced, detailed apportionment of the lump sum, prepared by the Contractor in accordance with the Schedule of Values required by the Contract and accepted by CITY.

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PART 2 – PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 29 73

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Contractor's Responsibilities
- C. Form and Content

1.02 RELATED SECTIONS

- A. Section 01 29 01 – Measurement and Payment
- B. Section 01 20 00 – Application for Payment
- C. Section 01 43 00 – Quality Requirements

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. Submit an initial Schedule of Values in the format discussed at the Pre-construction Meeting allocated to the various portions of the work in accordance with the Contract Documents and within 21 days of receipt of the Notice to Proceed.
- B. The initial Schedule of Values submitted by the Contractor will be reviewed and returned to the Contractor within 14 days of its submittal. After completing any revisions, the Contractor will submit a revised schedule. Upon the receipt of an approved Schedule of Values and progress schedule, the Contractor may then submit its first request for payment.
- C. Upon the request of the Construction Manager, support values with data that will substantiate their correctness.

1.04 FORM AND CONTENT

- A. Provide the following information on the Schedule of Values form:
 - 1. Title of project and location
 - 2. Contract number
 - 3. Name and address of Contractor
 - 4. Date of submission

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- B. List the component parts of the work, including the uninstalled and installed value of the material component parts of the work in sufficient detail to serve as a basis for computing the values for progress payments during construction as approved by the Construction Manager.
- C. Identify each line item with the number of major products or operations, labor, quantities, and unit prices under the item.
- D. The sum of all values listed in the schedule shall equal the total Contract Sum.
 - 1. Allowances. Provide a separate line item in the schedule of values for each allowance. Show the line-item value of unit-cost allowances as a product of the unit cost multiplied by the estimated quantity. Use the information indicated in the Contract Documents to determine quantities.
 - 2. Each item in the Schedule of Values and Application for Payment shall be complete.
 - 3. Schedule Updating. Update and re-submit the Schedule of Values before the next Application for Payment when Field Authorizations, Change Authorizations, or Change Orders result in a change in the Contract Price.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Description
- B. Related Sections
- C. Contractor's Responsibilities
- D. CITY's Duties
- E. Submittal Schedule
- F. Submittal Requirements
- G. Re-submittal of Submittals
- H. Initial Submittals
- I. Submittal Procedures
- J. Contractor's Review
- K. Submittal Review
- L. Distribution

1.02 DESCRIPTION

- A. This Section specifies the general methods and requirements of submissions applicable to work-related submittals.

1.03 RELATED SECTIONS

- A. Section 01 14 14 – Control of Work
- B. Section 01 25 00 – Substitution Procedures
- C. Section 01 29 73 – Schedule of Values
- D. Section 01 43 00 – Quality Requirements
- E. Section 01 77 00 – Contract Closeout Procedures

1.04 CONTRACTOR'S RESPONSIBILITIES

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- A. The review and approval of shop drawings, samples, or product data by the Engineer or Construction Manager shall not relieve the Contractor from their responsibility with regard to the fulfillment of the terms of the Contract. All risks of review error and omission are assumed by the Contractor, and the Construction Manager and/or Engineer will not have responsibility therefore.
- B. The following actions are required of the Contractor:
 - 1. Review submittals prior to submittal
 - 2. Determine and verify the following for each submittal:
 - a. Field measurements
 - b. Field construction criteria
 - c. Catalog numbers and similar data
 - d. Conformance with Specifications
 - 3. Coordinate each submittal with the requirements of the Work and Contract Documents.
 - 4. Notify CITY in writing, at the time of submittal, of deviations in submittals from the requirements of the Contract Documents. No deviation will be allowed without the written permission of CITY. If the Contractor fails to notify CITY of deviations, it shall pay for all cost for equipment replacement or removal to correct the problem.
 - 5. Begin no fabrication or work requiring submittals until the return of submittals with CITY's approval as provided in Section 3.02.
 - 6. Provide a Submittal Schedule in accordance with Paragraph 1.06.

1.05 CITY'S DUTIES

- A. Review Submittals in accordance with schedule
- B. Return Submittals to the Contractor for distribution or for re-submittal in accordance with the Contract Documents
- C. See Paragraph 3.02 for submittals responses designations

1.06 SUBMITTAL SCHEDULE

- A. Submit a schedule of submittals, arranged in chronological order by dates, required by the construction progress schedule. Include the time required for review, ordering, manufacturing, fabrication, and delivery when establishing the dates. Include the additional

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time required for making corrections or revisions to the submittals as noted by the Engineer and the additional time for handling and reviewing submittals required by those corrections.

B. The Contractor shall:

1. Coordinate the submittal schedule with the list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Submit an initial submittal schedule concurrently with the startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead-time for manufacture or fabrication.
3. Final Submittal Schedule. Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit a revised submittal schedule to reflect changes in the current status and timing for submittals.
4. Format. Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal
 - b. Specification Section number and title
 - c. Name of subcontractor
 - d. Description of the Work covered
 - e. Scheduled date for final release or acceptance
 - f. Scheduled date of fabrication
 - g. Scheduled dates for purchasing
 - h. Scheduled dates for installation
 - i. Applicable activity or event number from the progress schedule

1.07 SUBMITTAL REQUIREMENTS

- A. Provide and present submittals in accordance with contract documents.
- B. Coordination. Coordinate the preparation and processing of submittals with the Contractor's Submittal Schedule and the construction Progress Schedule.

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1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on the accepted Submittal Schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate the transmittal of different types of submittals for the related parts of the Work so processing will not be delayed because of the need to review the submittals concurrently for coordination.
 - a. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Numbering Convention. All submittals shall be assigned a unique number by the Contractor using the applicable specification section or drawing sheet number followed by a sequential 3-digit number beginning with 001. Re-submittals, if necessary, shall bear the number of the first submittal followed by a letter (A, B, etc.) suffix to indicate the sequence of the re-submittal. (Example: The 12th submittal from specification 31 23 33 should be “31 23 33-012” and the first re-submittal shall be “31 23 33-012A” and the second re-submittal “31 23 33-012B”).
- D. All shop drawings submitted by subcontractors for approval shall be sent directly to the Contractor for checking and submission. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in the delivery of materials.
- E. Processing Time. The time for review shall commence upon the Engineer’s receipt of the submittal. No extension of the Contract Time will be authorized because of a failure to transmit the submittals in sufficient advance of the Work to permit processing, including re-submittals. Allow time for submittal review, including time for re-submittals, as follows.
1. Initial Review. Allow 30 days for the initial review of each submittal. Allow additional time if coordination with the subsequent submittals is required. The Engineer will advise the Contractor when a submittal being processed must be delayed for coordination.
 2. Re-submittal Review. Allow 21 days for the review of each re-submittal.
 3. Sequential Review. Where a sequential review of submittals by Engineer's consultants, CITY, or other parties is indicated, allow 21 days for the initial review of each submittal.
 4. If more than two reviews are required of the Engineer because of the failure of the Contractor to provide all previously requested corrected data or additional information, the Contractor shall reimburse CITY in periodic payment requests deductions in an amount of \$500.00 per re-submittal for the charges of Engineer’s review of the additional re-submissions.

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- F. Deviations and Additional Information. On an attached separate sheet prepared on the Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from the requirements in the Contract Documents including minor variations and limitations. Include the same identification information as the related submittal.
- G. Re-submittals. Make the re-submittals in same form and number of copies as the initial submittal.
 - 1. Note the date and content of the previous submittal.
 - 2. Note the date and content of the revision in the label or title block and clearly indicate the extent of revision.
 - 3. Re-submit submittals until they are accepted in accordance with Paragraph 3.02.D.
- H. Distribution. Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, and others, as necessary, for the performance of construction activities.
- I. Use for Construction. Retain complete hard copies of the submittals at the Project site. Use only the final action submittals that are marked with an acceptance notation from the Engineer's action stamp.

1.08 RE-SUBMITTAL OF SUBMITTALS

- A. The Contractor shall accept full responsibility for the completeness of each re-submittal. The Contractor shall verify that all corrected data and additional information previously requested are provided on the re-submittal.
- B. When corrected copies are resubmitted, the Contractor shall, in writing, direct specific attention to all revisions and shall list separately any revisions made other than those called for on previous submissions.
- C. Requirements specified for the initial submittals shall also apply to re-submittals.

1.01 INITIAL SUBMITTALS

- A. Within 10 days after the Notice to Proceed, the Contractor shall provide the following Preliminary Schedules for review and acceptance:
 - 1. A Preliminary Schedule of Submittals including complete list of Equipment/Products proposed for use
 - 2. List of Subcontractors including name, email, phone number and address of company representative
 - 3. A Preliminary Schedule of Values in accordance with Section 01 29 73 - Schedule of Values

PART 2 – PRODUCTS

2.01 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements. Prepare and submit submittals required by individual Specification Sections. The types of submittals are indicated in individual Specification Sections.
1. Email the electronic submittals as PDF electronic files directly to the Construction Manager.
 - a. The Engineer will review the file. Annotate and return the submittal via the Construction Manager.
 - b. Provide a notarized statement on the original paper copy certificates and certifications where indicated.
 - c. Provide two hard copies of the final reconciled submittal delivered to a location identified by Construction Manager.
- B. Product Data. Collect information into a single submittal for each element of construction and type of product or equipment.
1. If the information must be specially prepared for a submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts
 - b. Manufacturer's product specifications
 - c. Standard color charts
 - d. Statement of compliance with specified referenced standard
 - e. Testing by recognized testing agency
 - f. Application of testing agency labels and seals
 - g. Notation of coordination requirements
 - h. Availability and delivery time information
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring

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- b. Printed performance curves
 - c. Operational range diagrams
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings
 5. Submit Product Data before or concurrently with Samples.
- C. Shop Drawings. Prepare Project-specific information, drawn accurately to scale. Do not submit the base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 1. Certified shop and erection drawings. The Contractor shall submit electronic files of the proposed equipment in the capacity, size, and arrangement as indicated and specified. The electronic files shall conform to the following minimum requirements:
 - a. Electronic Files. PDF and AutoCAD latest version, drawn to scale. Provide AutoCAD files on a separate CD to the Construction Manager.
 - b. Submit electronic files as part of the Shop Drawing submittal.
 - c. Drawings shall include plan views, sectional views, title block, Tag Numbers, serial numbers, Parts List (identifying each component), dimensions, connection sizes and types, and all details of all related items. In cases where certain information is proprietary and is omitted, provide a statement to that effect.
 - d. Drawings shall be in conformance with all other requirements as specified in this specification.
 2. Preparation. Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products
 - b. Schedules
 - c. Compliance with specified standards
 - d. Notation of coordination requirements
 - e. Notation of dimensions established by field measurement
 - f. Relationship and attachment to adjoining construction clearly indicated
 - g. Seal and signature of professional engineer if specified
 3. Sheet Size. Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8 ½-inches x 11-inches but no larger than 24-inches x 36- inches.

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4. Submit Shop Drawings as follows:
 - a. PDF electronic file via e-mail
- D. Product Schedule. As required in individual Specification Sections, prepare a written summary indicating the types of products required for the Work and their intended locations. Include the following information in tabular form:
 1. Type of product. Include a unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number, if applicable
 3. Number and name of room or space
 4. Location within room or space
 5. Submit product schedule as a PDF electronic file into PMIS.
- E. Coordination Drawing Submittals. Comply with the requirements specified in Section 01 14 14 - Control of Work.
- F. Schedule of Values. Comply with the requirements specified in Section 01 29 73 - Schedule of Values.
- G. Test and Inspection Reports and Schedule of Tests and Inspections Submittals. Comply with the requirements specified in Section 01 43 00 - Quality Requirements.
- H. Closeout Submittals and Maintenance Material Submittals. Comply with the requirements specified in Section 01 77 00 - Contract Closeout Procedures.

PART 3 – EXECUTION

3.01 CONTRACTOR’S REVIEW

- A. Submittals. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents.
- B. Conformity. Fabrication performed, materials purchased, or on-site construction accomplished that does not conform to accepted shop drawings and data shall be at the Contractor's risk. CITY will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
- C. Project Closeout and Maintenance Material Submittals. See requirements in Section 01 77 00 – Contract Closeout Procedures.
- D. Submittal Information. Include the Project name and location, submittal number, Specification Section title and number, name of the reviewer, date of the Contractor's approval, and a statement certifying that the submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

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3.02 SUBMITTAL REVIEW

- A. The review of shop drawings, data, and samples will be general.
 - 1. They shall not be construed as permitting any departure from the Contract requirements.
 - 2. They shall not be construed as relieving the Contractor of responsibility for any errors including details, dimensions, and materials.
 - 3. They shall not be construed as approving departures from the details except as otherwise provided herein.
- B. If the shop drawings, data, or samples, as submitted, describe variations and show a departure from the Contract requirements found to be in the interest of CITY and to be so minor as not to involve a change in Contract Price or time for performance, the reviewed documents may be returned without noting an exception.
- C. Submittals will be returned to the Contractor under one of the action codes indicated below and provided via e-mail.
 - 1. No Exception Taken. When submittals are marked as “No Exception Taken,” the Work covered by the submittal may proceed if it complies with the Contract Documents. Acceptance of the Work depends on that compliance.
 - 2. Make Corrections Noted. When submittals are marked as “Make Corrections Noted,” the Work covered by the submittal may proceed provided it complies with the Engineer’s notations or corrections on the submittal and with the Contract Documents. Acceptance of Work depends on that compliance. A re-submittal is not required.
 - 3. Amend and Resubmit
 - a. When submittals are marked as “Amend and Resubmit,” the Work covered by the submittal may not proceed. Do not permit the Work covered by submittals to be used at the Project site or elsewhere where the Work is in progress.
 - b. Revise the submittal or prepare a new submittal in accordance with the Engineer's notations and in accordance with the re-submittal requirements of this Section. Resubmit without delay.
 - 4. Rejected – See Remarks
 - a. When submittals are marked as “Rejected - See Remarks,” the Work covered by the submittal may not proceed. The Work covered by the submittal does not comply with the Contract Documents.
 - b. Prepare a new submittal for a different material or equipment supplier or different product line or material of same supplier complying with the Contract Documents.
 - 5. For Information Only

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- a. When submittals are marked as “For Information Only,” the Engineer will review the submittal but take no action.
 - b. It will be recorded as “For Information Only.” Work covered by this submittal may proceed if it complies with the Contract Documents.
- D. Re-submittals will be handled in the same manner as first submittals. On the re-submittals, the Contractor shall direct specific attention, in writing, on the letter of transmittal and on re-submitted shop drawings by use of revision triangles or other similar methods, to revisions other than the corrections requested on previous submissions. Any such revisions which are not clearly identified shall be made at the risk of the Contractor. The Contractor shall make corrections to any work done because of this type revision that is not in accordance to the Contract Documents as may be required.
- E. Partial submittals may not be reviewed. The degree of completeness of a submittal shall be determined solely by CITY or its assigns. Incomplete submittals will be returned to the Contractor and will be considered "Rejected" until re-submitted.
- F. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor shall give written notice to the Construction Manager least seven working days prior to the release for manufacture.
- G. When the shop drawings are satisfactorily completed, the Contractor shall carry out the construction with no further changes except upon written instructions from the Construction Manager.

3.03 DISTRIBUTION

- A. Distribute two hard copy reproductions of the final, accepted submittals, shop drawings, and copies of accepted product data and samples, where directed by the Construction Manager.

END OF SECTION

SECTION 01 42 16

DEFINITIONS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All Specification Sections

1.02 DEFINITIONS

- A. **General.** Basic Contract definitions are included in the Contract.
- B. **Accepted or Approved.** When used to convey the Construction Manager or Engineer’s action on Contractor's submittals, applications, and requests, “approved” or “accepted” is limited to the Construction Manager or Engineer’s duties and responsibilities as stated in the Contract Documents.
- C. **Commissioning (also known as “Project Commissioning”).** A quality- focused process for enhancing the delivery of a project. The process focuses upon verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet CITY’s Contract requirements.
- D. **Construction Progress Schedule.** Also known as the “Progress Schedule.” A schedule prepared and maintained by the Contractor describing the sequence and duration for the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
- E. **Contract Documents.** CITY has defined the Contract Documents in the Contract’s Terms and Conditions. Included in the Contract Documents are the plans and specifications that may also be referred to as Drawings, Contract Drawings, or Specifications.
- F. **Defective.** The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it
 - a. Does not conform to the Contract Documents; or
 - b. Does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. Has been damaged prior to the Construction Manager’s recommendation of final payment unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion.
- G. **Directed.** “Directed” is a command or instruction by the Construction Manager. Other terms including “requested,” “ordered,” “authorized,” “selected,” “required,” and “permitted” have the same meaning as “directed.”
- H. **Earth.** The word “earth,” wherever used as the name for an excavated material or material to be excavated, shall mean all kinds of material other than rock as previously defined.

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- I. **Elevation.** The figures given on the Drawings or in other Contract Documents after the word elevation or its abbreviation shall mean the distance in feet above the datum adopted by the Construction Manager or Engineer.
- J. **Furnish.** Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- K. **Indicated.** Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including “shown,” “noted,” “scheduled,” and “specified” have the same meaning as “indicated.”
- L. **Install.** Operations at the Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- M. **Project Site.** The project site is space available for performing construction activities. The extent of Project site is shown on the Drawings and may or may not be identical to the description for the land on which Project is to be built.
- N. **Provide.** Furnish and install, complete and ready for the intended use.
- O. **Punchlist.** A survey list with incomplete or unsatisfactory Contractor and subcontractor work performed prior to Substantial Completion. This is also known as a “Deficiencies List.”
- P. **Regulations.** Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction and rules, conventions, and agreements within the construction industry that control Work performance.
- Q. **Request for Information (RFI).** The business process and resulting form used in the procedure for initiating, implementing, and documenting field requests for clarification to the Contract Documents. The process initiated by the Contractor shall be used by the Contractor and Construction Manager to request and respond to clarifications.
- R. **Rock.** The word “rock,” wherever used as the name for an excavated material or material to be excavated, shall mean only boulders and pieces of concrete or masonry exceeding one cubic yard in volume or solid ledge rock which, in the Construction Manager’s opinion, requires for its removal the process of drilling and blasting, wedging, sledging, barring, or breaking up with a power-operated tool. No soft or disintegrated rock that can be removed with a hand pick or power-operated excavator or shovel, no loose, shaken or previously-blasted rock or broken stone in rock fillings or elsewhere, and no rock exterior to the maximum measurement limits allowed, that may fall into the excavation, shall be measured or allowed as “rock.” Contracts in the Program are unclassified excavation, and no separate payment is allowed for “rock.”
- S. **Sanitary Sewer Overflow (SSO).** A condition whereby untreated sewage is discharged into the environment prior to reaching sewage treatment facilities. A backup of the sanitary sewer into plumbing fixtures and surfaces may include a discharge within and around buildings from fixtures and plumbing appurtenances which may be due to a rupture or blockage of a sewer line.

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- T. **Substantial Completion.** The time at which the Work (or a specified part thereof) has progressed to the point where, in the Construction Manager’s opinion, the Work (or a specified part thereof) is sufficiently complete in accordance with the Contract Documents so that the Work (or a specified part thereof) can be used for the purpose(s) it is intended. The terms “substantially complete” and “substantially completed,” as applied to all or part of the Work, refer to the Substantial Completion thereof. Substantial Completion is not to be confused with operational completion for major processes and equipment, and will occur before Substantial Completion as all project work elements (or a specified part thereof) are required to be completed such as demolition, access for CITY, security, appurtenances, surface finishes, grading and landscaping, paving, etc., to be positioned for approval/review for CITY Codes in granting Use and Occupancy permits.
- U. **Substitutions.** Changes in products, materials, equipment, and construction methods from those required by the Contract Documents and proposed by Contractor.
1. Whenever a materials or equipment item is specified or described in the Contract Documents by using proprietary item names or particular Supplier names, the products from the named Suppliers shall be furnished by the Contractor, except as otherwise provided for herein, and the costs thereof shall be deemed included in the Bid price.
 2. Unless identified as no substitute, substitute products may be proposed by the Contractor after the Contract award. However, the Construction Manager or Program Manager has no obligation to accept such products. The Contractor shall not be entitled to additional compensation if it is required to provide the listed products. Wherever the term “or equal” is used in the Contract Documents, it shall have the same meaning as the terms “substitute” or “substitution” as used herein. Substitutions shall be considered if sufficient information is submitted by Contractor to allow CITY to determine that the material or equipment is equivalent or equal to that named. The acceptability of a proposed substitution shall be solely at the judgment of CITY.
- V. **Underground Facilities.** All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments and any encasements containing such facilities including those conveying electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, stormwater, other liquids or chemicals, or traffic or other control systems are considered underground utilities.
- W. **Unclassified Excavation.** An excavation priced with a single unit cost regardless of whether the excavator finds loose fill or embedded rock. On an unclassified excavation, the Contractor assumes the risk for whatever appears.
- X. **Under Roadway.** The words “Under Roadway,” whenever used in delineation of unit price payment for Work, shall be defined as where crushed stone or flowable fill trench backfill is used and required to provide generally non-compactable refill of excavated areas for limitation of settlement and stable foundations for improved travel surfaces. “Under Roadway” is not limited to public or private traveled improved “roads” but includes, and is not limited to, public roadways, private roadways, state highway pavements, driveways, improved hard surfaced parking lots, improved alleys, bikeways, greenways, roadway

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shoulders and recreational walking paths with asphalt or pavers surface or as directed or required by the Construction Manager. Additionally, excavations that could adversely impact surficial features or buildings where the Construction Manager directs stone backfill in trench excavations will be compensated under the “Under Roadway” unit pricing.

PART 2 - PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 43 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Description
- A. Related Sections
- B. References
- C. Definitions
- D. Contractor's Responsibilities
- E. Conflicting Requirements
- F. Submittals
- G. Contractor's *Quality Control Plan*
- H. Reports and Documents
- I. Quality Assurance
- J. Offsite Inspection
- K. Materials and Equipment
- L. Part 1 - Quality Control
- M. Special Tests and Inspections
- N. Examination
- O. Preparation
- P. Part 3 - Quality Control
- Q. Test and Inspection Log
- R. Repair and Protection

1.02 DESCRIPTION

- A. This Section includes quality assurance and quality control (QA/QC) administrative and procedural requirements.

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- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor from the responsibility for compliance with Contract Document requirements.
 - 1. Specific QA/QC requirements for individual construction activities are specified in the Sections that identify those activities. Requirements in those Sections may also cover producing standard products.
 - 2. Specified tests, inspections and related actions do not limit the Contractor's other QA/QC procedures which facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide QA/QC services required by Construction Manager or authorities having jurisdiction are not limited by provisions in this Section.

1.03 RELATED SECTIONS

- A. Division 01 – Division 33

1.04 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. E329: Standard Specification for Agencies Engaged in Construction Inspection and/or Testing

1.05 DEFINITIONS

- A. Quality Assurance Services. Activities, actions, and procedures performed before and while executing the Work to guard against defects and deficiencies and to substantiate the proposed construction shall comply with requirements
- B. Quality Control Services. Tests, inspections, procedures, and related actions during and after executing the Work to evaluate the actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Construction Manager.
- C. Preconstruction Testing. Tests and inspections performed specifically for Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria
- D. Product Testing. Tests and inspections performed by a Nationally Recognized Testing Laboratory (NRTL), a National Voluntary Laboratory Accreditation Program (NVLAP), or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction to establish product performance and compliance with specified requirements
 - 1. NRTL. A nationally recognized testing laboratory according to 29 CFR 1910.7
 - 2. NVLAP. A testing agency accredited according to National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program

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- E. Source Quality Control Testing. Tests and inspections performed at the source, e.g., plant, mill, factory, or shop
- F. Field Quality Control Testing. Tests and inspections performed onsite for installing the Work and for completed Work
- G. Testing Agency. A testing agency is an entity engaged to perform specific tests, inspections or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector. Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor to perform a particular construction operation including installation, erection, application and similar operations
 - 1. Using trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, nor do requirements specified apply exclusively to specific trade(s).
- I. Experienced. When used with an entity or individual, “experienced” means having successfully completed a minimum of five previous projects similar in nature, size, and extent of this Project; worked in this field of endeavor and task for a minimum of 2 years; being familiar with special requirements indicated; and having complied with the requirements from authorities having jurisdiction.

1.06 CONTRACTOR’S RESPONSIBILITIES

- A. The Contractor is responsible for controlling the Work’s quality including work by its subcontractors and suppliers and for ensuring that the quality specified in the Contract Documents is achieved.

1.07 CONFLICTING REQUIREMENTS

- A. Referenced Standards. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements which are different but apparently equal to the Construction Manager for a decision before proceeding.
- B. Minimum Quantity or Quality Levels. The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, the indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to the Construction Manager for a decision before proceeding.

1.08 SUBMITTALS

- A. Shop Drawings
 - 1. Indicate the manufacturer and model number for individual components.

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2. For QA/QC activities and responsibilities, provide the following:
 - a. Qualification Data. Supply this for the Contractor's quality control personnel.
- B. Testing Agency Qualifications. For testing agencies specified in the Quality Assurance Section to demonstrate their capabilities and experience, include proof of qualifications by submitting a recent inspection report by a recognized authority that inspected the testing agency.
- C. Tests and Inspections Schedule. Prepare in tabular form and include the following items:
 1. Specification Section number and title
 2. Entity responsible for performing tests and inspections
 3. Description for test and inspection
 4. Identification for applicable standards
 5. Identification for test and inspection methods
 6. Number of tests and inspections required
 7. Time schedule or time span for tests and inspections
 8. Requirements for obtaining samples

1.09 CONTRACTOR'S *QUALITY CONTROL PLAN*

- A. *Quality Control Plan*, General. Submit a *Quality Control Plan* within 10 days after receiving the Notice to Proceed. Submit it in format acceptable to the Construction Manager. Identify the personnel, procedures, controls, instructions, tests, records, and forms to be used to achieve the Contractor's QA/QC responsibilities. Coordinate with the Contractor's construction schedule.
- B. Quality Control Personnel Qualifications. Engage qualified full-time personnel trained and experienced in managing and executing QA/QC procedures similar in nature and extent to those required for Project.
 1. The Project quality control manager may also serve as the Project superintendent.
- C. Submittal Procedure. Describe procedures for ensuring compliance with requirements by reviewing and managing the submittal process. Indicate the qualifications for the personnel responsible for submittal review.
- D. Continuous Inspection for Workmanship. Describe the process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to the testing and inspection specified. Indicate the required corrective action types to bring the Work into compliance with workmanship standards established by the Contract requirements and accepted mockups.

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- E. Monitoring and Documentation. Maintain testing and inspection reports including a log containing the accepted and rejected results. Include work that the Construction Manager has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with the requirements. Comply with the requirements of authorities having jurisdiction.

1.10 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports. Prepare and submit certified written reports specified in other Sections. Include the following items:
 - 1. Issue date
 - 2. Project title and number
 - 3. Name, address and telephone number for testing agency
 - 4. Dates and locations for samples and tests or inspections
 - 5. Names for individuals making tests and inspections
 - 6. Description for the Work and test and inspection method
 - 7. Identification for product and Specification Section
 - 8. Complete test or inspection data
 - 9. Test and inspection results and an interpretation of test results
 - 10. Record for temperature and weather conditions when the sample was taken, tested and inspected
 - 11. Results from tested or inspected Work which confirms the Work complies or did not comply with the Contract Document requirements
 - 12. Recommendations on retesting and re-inspecting
- B. Permits, Licenses and Certificates. For CITY's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with the standards and regulations bearing on the Work's performance.

1.01 QUALITY ASSURANCE

- A. General. Qualification paragraphs in this Section shall establish the minimum qualification levels required; individual Specification Sections shall specify additional requirements.

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- B. **Manufacturer Qualifications.** A firm experienced in manufacturing products or systems similar to those indicated for this Project with a successful in-service performance record and sufficient production capacity to produce required units
- C. **Installer Qualifications.** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project whose work has resulted in construction with a successful in-service performance record
- D. **Professional Engineer Qualifications.** A professional engineer who is legally qualified to practice in Tennessee and who is experienced in providing engineering services of the kind indicated
- E. **Specialists.** Certain Specification Sections require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists shall satisfy the qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements by authorities having jurisdiction shall supersede requirements for specialists.
- F. **Testing Agency Qualifications.** An NRTL (Nationally Recognized Testing Laboratories), an NVLAP (National Voluntary Laboratory Accreditation Program), or an independent agency with the experience and capability to conduct the testing and inspecting indicated as documented according to ASTM E329 with additional qualifications specified in individual Sections and, where required by authorities having jurisdiction, that is acceptable to authorities.
- G. **Testing Agency Responsibilities.** Submit a certified written report for each test, inspection, and similar quality-assurance service to the Construction Manager and copy the Contractor. Interpret tests and inspections and state in each report whether the tested and inspected work complies with or deviates from the Contract Documents.
- H. **Codes and Standards.** Copies of applicable referenced standards are not included in the Contract Documents. Where the Contractor needs copies of standards for superintendence and quality control of the Work, the Contractor shall obtain a copy or copies directly from the publication source and maintain them at the jobsite in a place that is available to the Contractor's personnel, subcontractors, and the Construction Manager.
- I. **Quality of Materials.** Unless otherwise specified, all materials and equipment furnished for permanent installation in the Work shall conform to applicable standards and specifications and shall be new, unused, and free from defects and imperfections when installed or otherwise incorporated in the Work. The Contractor shall not use material and equipment for any purpose other than that intended or specified unless the Construction Manager authorizes such use.
- J. Where so specified, products or workmanship shall also conform to the additional performance requirements included within the Contract Documents to establish a higher or more stringent standard or quality than that required by the referenced standard.

1.13 MATERIALS AND EQUIPMENT

- A. The Contractor shall maintain control over its procurement sources to ensure that materials and equipment conform to the specified requirements in the Contract Documents.
- B. The Contractor shall comply with the manufacturer's printed instructions regarding all facets for materials and/or equipment movement, storage, installation, testing, startup, and operation. Should circumstances occur where the Contract Documents are more stringent than the manufacturer's printed instructions, the Contractor shall comply with the Contract Documents. In cases where the manufacturer's printed instructions are more stringent than the Contract Documents, the Contractor shall advise the Construction Manager about the disparity and shall conform to the manufacturer's printed instructions. In either case, the Contractor is to apply the more stringent specification or recommendation unless accepted otherwise by the Construction Manager.

1.14 QUALITY CONTROL

- A. Contractor Responsibilities. Tests and inspections not explicitly assigned to CITY are the Contractor's responsibility. Perform additional quality control activities required to verify that the Work complies with the requirements, whether specified or not.
 - 1. Unless otherwise indicated, provide the quality control services specified and those required by authorities having jurisdiction. Perform quality control services required of a Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work with the specified quality.
 - 3. Comply with the manufacturer's instructions including each step in the sequence.
 - 4. Where the manufacturer's instructions conflict with the Contract Documents and prior to proceeding, the Contractor shall request clarification from the Construction Manager.
 - 5. Comply with the specified standards as a minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
 - 6. Perform Work by persons qualified to produce the required and specified quality.
 - 7. Verify that field measurements are as indicated on the Shop Drawings or as instructed by the manufacturer.
 - 8. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - 9. Where services are indicated as the Contractor's responsibility, engage a qualified testing agency to perform these quality control services.

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10. Notify testing agencies at least 24 hours before the Work requiring testing or inspecting shall be performed.
11. Where quality control services are indicated as a Contractor's responsibility, submit a certified written report, in duplicate, for each quality control service.
12. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
13. When directed, submit additional copies of each written report directly to the authorities having jurisdiction.

B. Tolerances

1. Monitor product fabrication and installation tolerance control to produce acceptable Work. Do not permit tolerances to accumulate.
2. Comply with the manufacturers' tolerances. When manufacturers' tolerances conflict with the Contract Documents, request clarification from the Construction Manager before proceeding.
3. Adjust products to appropriate dimensions; position before securing products in place.

C. Manufacturer's Field Services. Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation including service connections. Report results in writing in accordance with Section 01 33 00 - Submittals.

D. Manufacturer's Technical Services. Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participating in pre-installation conferences, examining substrates and conditions, verifying materials, observing installer activities, inspecting completed Work portions, and submitting written reports. Report results in writing in accordance with Section 01 33 00 - Submittals.

E. Re-testing/Re-inspecting: Regardless of whether the original tests or inspections were the Contractor's responsibility, provide quality control services including re-testing and re-inspecting for construction that replaced Work which failed to comply with the Contract Documents.

F. Testing Agency Responsibilities. Cooperate with the Engineer, the Construction Manager, and the Contractor when performing duties. Provide qualified personnel to perform the required tests and inspections.

1. Notify the Construction Manager and Contractor promptly about irregularities or deficiencies observed in the Work when performing its services.
2. Determine the location from which test samples shall be taken and in which in-situ tests are conducted.

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3. Conduct and interpret tests and inspections and state in each report whether the tested and inspected work complies with or deviates from the requirements.
 4. Submit a certified written report, in duplicate, for each test, inspection, and similar quality control service through the Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any Work portion.
 6. Do not perform any Contractor duties.
- G. Contractor's Associated Services. Cooperate with agencies performing the required tests, inspections, and similar quality control services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assigning personnel. Provide the following items:
1. Safe access to the Work and safety equipment required for access
 2. Incidental labor and facilities necessary to facilitate tests and inspections
 3. Adequate quantities for representative material samples requiring testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storing and field curing test samples
 5. Delivering samples to testing agencies
 6. Security and protection for samples and for testing and inspecting equipment at Project site
- H. Coordination. Coordinate the activity sequence to accommodate required QA/QC services with minimum delay and to avoid the necessity to remove and replace construction to accommodate testing and inspecting.
1. Scheduling. Schedule times for tests, inspections, obtaining samples, and similar activities.
 2. Distribution. Distribute a schedule to CITY, the Construction Manager, the testing agencies, and each party involved in performing Work portions where tests and inspections are required.

1.15 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections. These shall be conducted by the Construction Manager or their qualified testing agency as required by the authorities having jurisdiction as indicated in individual Specification Sections. The Contractor is responsible for the following items:
1. Safe access to the Work and safety equipment required for access
 2. Incidental labor and facilities necessary to facilitate special tests and inspections

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3. Adequate quantities for representative material samples requiring testing and inspecting. Assist in obtaining samples when applicable.
4. Providing adequate notice when the Work is ready for inspection in accordance with the Contract Documents
5. Redoing Work that fails to pass any special tests and inspections until the Work passes the special tests and inspections

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify that the existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means accepting the existing conditions.
- B. Verify that the existing substrate can provide structural support or attachment for the new Work being applied or attached.
- C. Examine and verify the specific conditions described in individual Specification Sections.
- D. Verify that utility services are available with the correct characteristics and in the correct locations.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying the next material or substance.
- B. Seal substrate cracks or openings prior to applying the next material or substance.
- C. Apply the manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying the new material or substance in contact or bond.

3.03 QUALITY CONTROL

- A. Quality control is the Contractor's responsibility, and the Contractor shall maintain control over construction and the installation processes to ensure compliance with the specified requirements.
- B. Certifications for personnel, procedures, and equipment associated with special processes (e.g., welding, cable splicing, instrument calibration, surveying) shall be maintained in the Contractor's field office and be available for inspection by the Construction Manager. Copies shall be made available to the Construction Manager upon request.
- C. Construction and installation process means and methods are the Contractor's responsibility. At no time is it the Construction Manager's intent to supersede or void that responsibility.

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3.04 TEST AND INSPECTION LOG

- A. Test and Inspection Log. Prepare a record for tests and inspections and include the following items:
 - 1. The date that the test or inspection was conducted
 - 2. Description of the Work tested or inspected
 - 3. The date that the test or inspection results were transmitted to Construction Manager
 - 4. Identification of the testing agency or special inspector conducting test or inspection
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to the test and inspection log for the Construction Manager's reference during normal working hours.

3.05 REPAIR AND PROTECTION

- A. General. After completing the testing, inspecting, sample taking, and similar services, repair the damaged construction and restore the substrates and finishes.
 - 1. Provide materials and comply with the installation requirements specified in other Specification Sections or matching existing substrates and finishes.
 - 2. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 - 3. Comply with the Contract Document requirements for cutting and patching in Section 01 73 29 - Cutting, Coring and Patching.
- B. Protect the construction that is exposed for quality-control service activities.
- C. Repair and protection are the Contractor's responsibility.

END OF SECTION

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SECTION 01 45 23

TESTING AND LABORATORY SERVICES PROVIDED BY CONTRACTOR

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. References
- C. Contractor's Responsibilities
- D. Submittals
- E. Quality Assurance

1.02 RELATED SECTIONS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 33 00 – Submittals
- C. Section 01 43 00 – Quality Requirements

1.03 REFERENCES

- A. ASTM E329 – 11c: Standard Specification for Agencies Engaged in Construction Inspection, Testing or Special Inspection
- B. ASTM E 329 – 09: Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction

1.04 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall provide all independent testing other than those tests specifically identified as being provided by CITY
- B. The Contractor shall employ and pay for an independent testing laboratory to perform the services required by the Contract Documents. The Contractor's selected laboratory shall be subject to the Construction Manager's approval.

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1.05 SUBMITTALS

- A. Submit a copy of the Certificate of Calibration made by accredited calibration agency certifying that the laboratory's equipment has been calibrated within the last 12 months and every 12 months by devices of accuracy traceable either to the National Bureau of Standards or to accepted values of natural physical constants.
- B. The testing agency shall submit a proof of qualifications in the form of a recent report within the last 18 months of the inspection of the testing agency by a recognized authority.

1.06 QUALITY ASSURANCE

- A. Where applicable, meet *Recommended Requirements for Independent Laboratory Qualification*, latest edition published by the American Council of Independent Laboratories and the basic ASTM E 329 requirements, *Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction*.
- B. The chosen laboratory shall be authorized to operate in Tennessee.

PART 2 – PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 73 29

CUTTING, CORING AND PATCHING

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Contractor's Responsibilities
- C. Quality Assurance
- D. Submittals
- E. Products, General
- F. Materials
- G. Execution, General
- H. Inspection
- I. Preparation
- J. Coring
- K. Cutting
- L. Patching
- M. Cleaning

1.02 RELATED SECTIONS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 14 14 – Control of Work
- C. Section 01 33 00 – Submittals
- D. Section 01 43 00 – Quality Requirements

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. This Section provides the Contractor's responsibilities for cutting, coring, and patching all Work under construction, completed Work, and existing facilities to accommodate coordinating the

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Work, installing other Work, uncovering Work for access, inspection or testing, or for similar purposes.

- B. Demolition Work is specified elsewhere.
- C. Execute all cutting and patching including excavation, backfill and fitting required to complete the following:
 - 1. Remove all existing constructions required to provide for specified alteration to existing or future Work.
 - 2. Uncover Work to allow the Construction Manager to observe the covered Work or to provide an opportunity for observation by any regulatory agencies having jurisdiction.
 - 3. Remove or relocate existing utilities and pipes obstructing the Work in locations where connections must be made.
 - 4. Make connections or alterations to existing or new facilities.

1.04 QUALITY ASSURANCE

- A. Comply with Section 01 43 00 - Quality Requirements.
- B. Structural Work. Do not cut or patch the structural elements in a manner that could change their load-carrying capacity or load deflection ratio.
- C. Operating Elements. Do not cut or patch operating elements in a manner that would result in reducing their capacity to perform as intended. Do not cut or patch operating elements in such a manner that would result in increased maintenance or decreased operation life or safety.
- D. Restore all existing Work to a state equal to what exists prior to cutting and restore new Work to the standards of the Contract Documents.

1.05 SUBMITTALS

- A. Prior to cutting, submit written notice to the Construction Manager requesting approval. Include the following information:
 - 1. Project identification
 - 2. Description for the Contractor's affected Work and the Work of others
 - 3. Necessity for cutting
 - 4. Effect on other Work and on structural integrity
 - 5. A description for proposed Work designating the following:
 - a. Scope for cutting and patching
 - b. Contractor, subcontractor, or trade to execute the Work

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- c. Proposed products to be used
 - d. Extent for refinishing
 - e. Operations schedule
- 6. Alternatives to cutting and patching, if any
- 7. Designated party responsible for cutting and patching
- B. Should the Work conditions or schedule indicate changing materials or methods, submit written recommendation to CITY including:
 - 1. Conditions indicating change
 - 2. Recommendations for alternative materials or methods
 - 3. Submittals, as required, for substitutions
- C. Submit a written notice to the Construction Manager designating a time that the Work will be uncovered to provide for observation. Do not begin cutting or patching operations until authorized by the Construction Manager.
- D. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.
- E. Provide shoring, bracing, and support as required to maintain the Project's structural integrity and protect adjacent areas from damage during cutting and patching.
- F. Conform to all applicable Specifications for applying and installing materials used for patching.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Use materials identical to existing materials.
- B. For exposed surfaces, use materials that visually match the existing adjacent surfaces to the fullest extent possible.
- C. If identical materials are unavailable or cannot be used, use materials whose installed performance shall equal or surpass that of the existing materials.

2.02 MATERIALS

- A. Concrete repair mortar shall be a non-shrink, commercial formula requiring only adding water that will allow the concrete mortar to have a 5,000 psi minimum 28-day compressive strength.
- B. Provide a non-shrink cementitious repair mortar material as manufactured by the following:

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1. Sika Repair 224 manufactured by Sika Corp.
2. EMACO S88CI manufactured by Master Builder, Inc.
3. Underlayment F-120 by Sauereisen, Inc.
4. Or acceptable equivalent product

PART 3 – EXECUTION

3.01 GENERAL

- A. Perform all cutting and coring in such a manner as to limit the extent of patching.
- B. Core drill all holes to be cut through concrete and masonry walls, slabs, or arches unless otherwise approved.

3.02 INSPECTION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed before cutting.
- B. Report, in writing, unsatisfactory or questionable conditions to the Construction Manager. Do not proceed with the Work until the Construction Manager has provided instructions.
- C. Before proceeding, the Contractor shall meet at the site with all subcontractors involved in cutting and patching, including the Construction Manager and any affected subcontractors. The potential interferences and conflict areas shall be reviewed prior to proceeding with the Work.\

3.03 PREPARATION

- A. Provide shoring, bracing, and temporary support, as required, to maintain the Project's structural integrity to protect adjacent areas from damage during cutting and to support the Work to be cut.
- B. Protect the existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for the portions of the Project that will be exposed during the cutting and patching operations.
 1. Avoid interference with adjoining area use or interrupting free passage to adjoining areas.
 2. Do not cut existing pipe, conduit, or ductwork that are scheduled to be removed or relocated and are serving facilities, until provisions have been made to bypass these existing pipe, conduit, or ductwork.

3.04 CORING

- A. Perform coring with a non-impact rotary tool using diamond core drills. Size holes for pipe, conduit, sleeves, equipment, or mechanical seals, as required.
- B. Protect the existing equipment, utilities, and adjacent areas from water and other damage caused by drilling operations.

- C. Vacuum or otherwise remove slurry or tailings from the Work area following drilling.

3.05 CUTTING

- A. Cut existing construction using methods that are the least likely to damage the retained elements or adjoining construction and provide proper surfaces to receive the installation or repair.
 - 1. In general, use hand or small power tools designed for sawing or grinding and not hammering and chopping.
 - 2. Cut through concrete and masonry using a concrete wall saw with diamond saw blades.
 - 3. Provide for controlling slurry generated by sawing on both sides of walls.
- B. Cut holes and slots neatly and as small as possible to the required size causing minimum disturbance to adjacent surfaces. Provide temporary covering over openings when not in use.
- C. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into the concealed side.
- D. Provide adequate bracing for the area to be cut prior to beginning cutting.
- E. Provide adequately sized equipment to remove the cut panel.

3.06 PATCHING

- A. Patch construction by filling, repairing, refinishing, closing-up, and similar operations following other Work performance. Patch with durable seams that are as invisible as possible. Provide materials and comply with the installation requirements as specified in other Specification Sections.
- B. Where feasible, test patched areas to demonstrate the installation's integrity.
- C. Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- D. Restore exposed finishes for patched areas and extend finish restoration into retained adjoining construction in a manner that shall eliminate evidence of patching and refinishing.
 - 1. For continuous surfaces, refinish to the nearest intersection.
 - 2. For an assembly, refinish the entire unit.

3.07 CLEANING

- A. Clean the areas and spaces where cutting, coring and patching are performed.
- B. Clean the piping, manhole, or similar constructions before applying paint or other finishing materials.

END OF SECTION

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SECTION 01 77 00

CONTRACT CLOSEOUT

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Related Sections
- B. Definitions
- C. Contractor's Responsibilities
- D. Contract Closeout Sequence of Events

1.02 RELATED SECTIONS

- A. Division 01 – Division 33

1.03 DEFINITIONS

- A. Contract closeout is the process that commences as the work nears Substantial Completion. It continues through Substantial Completion and Final Completion of the Work.
- B. This Specification Section defines the overall change over process from construction (by the Contractor) to the Correction Period.

1.04 CONTRACTOR'S RESPONSIBILITIES

- A. As construction of the project enters the final stages of completion, the Contractor shall, in accordance with accomplishing the requirements set forth in the Contract Documents, attend to or have already completed the following items as they apply to the Contract:
 - 1. Required testing of project components
 - 2. Correcting or replacing defective work, including completion of items previously overlooked or work which remains incomplete, all as evidenced by CITY's "Punch" Lists
 - 3. Attend to any other items listed herein or brought to the Contractor's attention by CITY

1.05 CONTRACT CLOSEOUT SEQUENCE OF EVENTS

- A. The sequence of events and their description listed below represent the suggested order of activities as the contract proceeds from "Work Required Prior To Requesting Substantial Completion" through "Substantial Completion," "Warranty Period," "Correction Period," and "Final Completion." Adjustments may be made, after approval by CITY for the mutual benefit of the Contractor and CITY, if the situation so warrants. Any adjustment made in the sequence of events, to accommodate the Contractor, shall be at no additional cost to CITY.

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B. Work Required Prior To Requesting Substantial Completion. The Contractor shall perform the following prior to requesting issuance of a Certificate of Substantial Completion Requirements include, but are not limited to, the following:

1. Complete all Work for each Contract Milestone in accordance with the Contract Documents.

C. Substantial Completion

1. Substantial Completion is defined in Article 3.2 of the Contract Purchase Agreement (Contract Terms and Conditions).
2. Refer to Article 3.2 of the Contract Purchase Agreement (Contract Terms and Conditions) for requirements to obtain Certificate of Substantial Completion.
3. The Construction Manager will provide a punch list of items to be completed or corrected prior to final payment.

D. One Year Correction Period

1. If, within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by CITY or permitted by Laws and Regulations is found to be defective, Contractor shall within fifteen (15) days after notice from and without cost to CITY, and in accordance with CITY's written instructions:
 - a. Repair such defective land or areas, or
 - b. Correct such defective Work, or
 - c. If the defective Work has been rejected by CITY, remove it from the Project and replace it with Work that is not defective, and
 - d. Satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
2. If the Contractor does not promptly comply with the terms of the CITY's written instructions, or in an emergency where delay would cause serious risk of loss or damage, CITY may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims costs, losses, and damages (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and all court or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including, but not limited to, all costs of repair or replacement of work of others) will be paid by Contractor.
3. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

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4. The Contractor's obligations under this Section are in addition to other obligations or warranties. The provisions of this Section shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.
5. The Construction Manager with CITY and the Engineer may conduct a review of the project site approximately 1 month prior to the expiration of the 1-year correction period to ascertain if issues, restoration, work, or installed equipment and instrumentation provided under the Contract need corrective action by the Contractor. The Contractor may be given notice of the review, and the Contractor's participation is non-mandatory.

E. Final Completion

1. Final Completion is defined in Article 3.2 of the Contract Purchase Agreement (Contract Terms and Conditions).
2. The contract time for Final Completion shall commence on the date of Substantial Completion as determined by the Construction Manager. For rehabilitation projects, up to twenty-one (21) days of the contract time is allocated for use by CITY and the Construction Manager to conduct onsite project inspections and reviews, to process post-rehabilitation CCTV data, and to compile and issue the project punch lists for Contractor completion or correction. The Contractor shall incorporate and schedule this allocated time accordingly.
3. The Contractor shall submit the Final Contractor's Payment Request in accordance with Article 3.2 of the Contract Purchase Agreement (Contract Terms and Conditions).

F. Warranties. Provide two copies of the warranties and bonds required in the Contract Documents.

1. Execute and assemble documents from subcontractors, suppliers, and manufacturers.
2. Bind the warranties and bonds in commercial quality 8 ½ x 11-inch three-ring side binders with hardback cleanable plastic covers.
 - a. Label the cover of each binder with a typed or printed title "Warranties and Bonds" with title of the Project; the name, address, and telephone numbers of Contractor; and the name of responsible principal.
 - b. Table of Contents. Each binder should contain a Table of Contents that is neatly typed in the sequence of the Table of Contents of the Project Specifications with each item identified with the number and title of the Specification Section in which it is specified and the name of the product or work item.
3. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing.
4. List the subcontractor, supplier, and manufacturer with the appropriate names, addresses, and telephone numbers of the responsible principal.

PART 2 – PRODUCTS

NOT USED

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PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE**PART 1 - GENERAL****1.01 SUMMARY**

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.02 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement.
- D. Welding certificates.
- E. Material certificates.
- F. Material test reports.

1.03 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M, "Structural Welding Code - Reinforcing Steel."
- D. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- E. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- F. Preinstallation Conference: Conduct conference at Project site.

PART 2 - PRODUCTS**2.01 FORM-FACING MATERIALS**

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.02 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.
- C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice.

2.03 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, Type I/II, gray. Supplement with the following:
 - a. Fly Ash: ASTM C 618, Class F or C.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33, graded.
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch (19 mm) nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

2.04 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.05 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type I, Class B, dissipating.

2.06 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

2.07 CONCRETE MIXTURES

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
- B. Cementitious Materials: 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.
- C. Admixtures: Use admixtures according to manufacturer's written instructions.
 1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
- D. Proportion normal-weight concrete mixture as follows:
 1. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.

2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch (19-mm) nominal maximum aggregate size.

2.08 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.09 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.
 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.01 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Chamfer exterior corners and edges of permanently exposed concrete.

3.02 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.03 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.04 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
 - 1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

3.05 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
- C. Cold-Weather Placement: Comply with ACI 306.1.
- D. Hot-Weather Placement: Comply with ACI 301.

3.06 FINISHING FORMED SURFACES

- A. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:
 - 1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
 - 2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match

- adjacent surfaces. Scrub grout into voids and ~~remove~~ excess grout. When grout whitens, rub surface with clean burlap and keep surface ~~damp~~ by fog spray for at least 36 hours.
3. **Cork-Floated Finish:** Wet concrete surfaces ~~and~~ ~~apply~~ a stiff grout. Mix one part portland cement and one part fine sand with a 1:1 ~~mixture~~ of bonding agent and water. Add white portland cement in amounts determined ~~by~~ trial patches so color of dry grout will match adjacent surfaces. Compress grout ~~into~~ voids by grinding surface. In a swirling motion, finish surface with a cork float.
- B. **Related Unformed Surfaces:** At tops of walls, horizontal ~~offsets~~, and similar unformed surfaces ~~adjacent~~ to formed surfaces, strike off smooth and ~~finish~~ with a texture matching adjacent ~~formed~~ surfaces. Continue final surface treatment of ~~formed~~ surfaces uniformly across adjacent ~~unformed~~ surfaces unless otherwise indicated.

3.07 FINISHING FLOORS AND SLABS

- A. **General:** Comply with ACI 302.1R recommendations ~~for~~ screeding, restraigthening, and finishing operations for concrete surfaces. Do not wet ~~concrete~~ surfaces.
- B. **Broom Finish:** Apply a broom finish to exterior ~~concrete~~ platforms, steps, ramps, and elsewhere as indicated.

3.08 CONCRETE PROTECTING AND CURING

- A. **General:** Protect freshly placed concrete from ~~premature~~ drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-~~weather~~ protection and ACI 301 for hot-weather protection during curing.
- B. **Evaporation Retarder:** Apply evaporation retarder to ~~unformed~~ concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 ~~lb/sq. ft.~~ x h (1 kg/sq. m x h) before and ~~during~~ finishing operations. Apply according to ~~manufacturer's~~ written instructions after placing, screeding, and bull floating or darbying concrete, ~~but~~ before float finishing.
- C. **Cure concrete according to ACI 308.1, by one or a combination of the following methods:**
 1. **Moisture Curing:** Keep surfaces continuously ~~moist~~ for not less than seven days.
 2. **Moisture-Retaining-Cover Curing:** Cover ~~concrete~~ surfaces with moisture-retaining cover for curing concrete, placed in widest ~~practicable~~ width, with sides and ends lapped at least 12 inches (300 mm), and sealed by ~~waterproof~~ tape or adhesive. Cure for not less than seven days. Immediately repair any holes or ~~tears~~ during curing period using cover material and waterproof tape.
 3. **Curing Compound:** Apply uniformly in ~~continuous~~ operation by power spray or roller according to manufacturer's written instructions. ~~Recoat~~ areas subjected to heavy rainfall within three hours after initial application. ~~Maintain~~ continuity of coating and repair damage during curing period.
 - a. **Removal:** After curing period has elapsed, ~~remove~~ curing compound without damaging concrete surfaces by method ~~recommended~~ by curing compound manufacturer unless manufacturer certifies ~~curing~~ compound will not interfere with bonding of floor covering used on ~~Project~~.

3.09 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

3.10 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

END OF SECTION

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SECTION 33 01 30

FLOW CONTROL OF SEWER LINES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section includes all materials, labor, and equipment required to provide bypass flow control for sanitary sewer lines construction, upgrade, or rehabilitation.
- B. Also, furnish all power, maintenance, etc. to implement the bypass flow control and diversion pumping to divert the existing flow around the work area for the work's duration. If the duration of the work coincides with conditions that have a potential to cause higher flows than the minimum, the contractor shall be at risk for containing all flows.
- C. The design, installation, and operation for the temporary bypass pumping system shall be solely the Contractor's responsibility. The Contractor is to plan and perform his construction work for the supporting diversion pumping operations to reduce risk, avert overflows, minimize exposure durations and address variable season and event sewer flow rates.

1.02 PERFORMANCE AND PENALTIES

- A. The Contractor shall ensure:
 - 1. All temporary sewer bypass pumping activities for the work are completed in full compliance with the local Stormwater Management Regulations, and no water quality or quantity compliance issues are encountered.
 - 2. No illicit pollutant discharges to (or to a location that would create contaminated water runoff to) a storm sewer, a stormwater conveyance, or a water body within City shall occur.
 - 3. All temporary sewer bypass pumping activities for the work are completed in full compliance with the Tennessee Department of Environment and Conservation and the U.S. EPA regulations, and no water quality or quantity compliance issues are encountered.
- B. No discharge of sewage or debris shall be released to the environment. Should the Contractor's actions cause a sewage or debris overflow or bypass to the environment, site cleanup will be the Contractor's responsibility consistent with the *Response Plan for Overflows* and regulators directions. All overflow or bypass environmental cleanup activities shall be immediately commenced and prosecuted continuously by the Contractor. Any associated fines or penalties enacted by the Tennessee Department of Environment and Conservation, the U.S. EPA, and/or any other regulatory groups or programs will be borne solely by the Contractor.

1.03 SUBMITTALS

- A. At least 4 weeks prior to commencing work including plugging any line, bypass pumping, or similar actions, the Contractor shall submit to the City, a detailed *Bypass*

Sewage Pumping Plan (Plan), as further described in these specifications, for review and approval. Any Plan approval does not relieve the Contractor from any responsibility for the Plan's adequacy or proper execution. The Contractor is responsible for conducting his work in a manner which will not cause overflows or system backups that could damage private and/or public property.

B. Submit the following in accordance with Section 01 33 00.

1. *Bypass Sewage Pumping Plan*. Plan shall contain, at minimum, the following:
 - a. Staging areas for pumps
 - b. Sewer plugging method and plug types
 - c. Size and location for wetwells or access points for suction and discharge hose or piping
 - d. Size for pipeline or conveyance system to be bypassed
 - e. Number, size, material, location, and method for installing suction piping
 - f. Number, size, material, location, and method for installing discharge piping
 - g. Provide bypass pump sizes, capacity, number of each size to be on site, and power requirements. Pump sizing shall clearly indicate compliance with requirements in this Section.
 - h. Calculations for static lift, friction losses, and flow velocity (pump curves showing pump operating range)
 - i. Standby power generator size and location (if electric pumps are employed)
 - j. Downstream discharge plan
 - k. Method to protect discharge wetwells or structures from erosion and damage
 - l. Thrust and restraint block sizes and locations
 - m. Noise control method for each pump and/or generator
 - n. Any temporary pipe supports and anchoring required
 - o. Plans for access to bypass pumping locations indicated on the Drawings
 - p. Schedule for installing and maintaining bypass pumping lines
 - q. Plan indicating routing for bypass pumping line locations
 - r. Plan indicating monitoring location selections

- s. All items related to testing, inspection, maintenance, and monitoring as described in this Section
- t. All other incidental items necessary and/or required to ensure facilities are properly protected including protecting the access and bypass pumping locations from damage due to the discharge flows and compliance with the requirements and permit conditions specified in the Contract Documents
- u. For sewer rehabilitation by lining methods, generic plans may be developed for typical situations and various sizes to be implemented.

PART 2 - PRODUCTS

2.01 BYPASS EQUIPMENT

- A. All equipment used for bypass pumping shall be specifically designed for that intended purpose. All piping, pumps, etc. in contact with sanitary sewage shall be manufactured with materials designed for use in a sewage environment.
- B. All pumps used shall be fully automatic self-priming units which do not require foot valves or vacuum pumps in the priming system.
- C. The pumps shall be electric, hydraulic, or diesel powered.
- D. All pumps used shall be constructed to allow dry running for long periods of time in order to accommodate effluent flows' diurnal nature.
- E. Above-ground pumps and/or power units shall be located inside a temporary portable berm to contain any fuel or sewage that may spill during the normal course of operation.
- F. Hard discharge piping shall be butt-welded HDPE with a minimum pressure rating of 1.5 times the total dynamic pump head.
- G. Under no circumstances will irrigation type piping or glued PVC pipe be allowed.
- H. A discharge hose may be allowed on rehabilitation projects for short-term setups (less than or equal to 48 hours) on short sections with approval from the City. Hoses shall have no leaks, and all couplings shall be quick connecting with gaskets.
- I. A multiple pump header system shall have check valves to facilitate pump removal, service, and/or replacement while the system remains operational.
- J. All above ground pumps and/or power units shall be equipped with sound attenuation measures which reduce noise levels to 75-decibels maximum at a 30-foot distance from the equipment during all operation periods. If equipment is operated between 8:00 PM and 6:00 AM, this equipment shall also be provided with a sound attenuation 3-sided enclosure including a roof.
- K. The discharge location (the point where the bypass main reenters the gravity sewer system) shall be constructed with adequate sealant materials to minimize sewer gas and odor release to the maximum extent possible.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Provide bypass sewage pumping, as required, around the section in which work is to be performed. Bypass pumping shall be the Contractor's full responsibility. The bypass system shall be of sufficient capacity to handle a minimum of 2.0 times the dry weather daily peak flow of the pipeline section being bypassed. Performance of extended pumping durations in or immediately following precipitation events and/or with precipitation events in the forecast will require greater pumping system capacities to accommodate the potential higher flows.
- B. At least 4 weeks prior to the desired start date of construction requiring bypass pumping, submit a detailed description of the method proposed for bypass pumping to the City for review and approval. The description shall include capacity calculations, operational conditions, conditions of performance relative to precipitation and antecedent conditions, all materials and equipment to be used, personnel, spare equipment, and sketches showing proposed pump-around setups. No work shall commence until the CITY approves.
- C. Bypass pumping equipment shall include pumps, conduits, engines, and related equipment necessary to divert sewage flow around the section in which work is to be performed. Backup pumps shall be online and isolated from the primary system by valves. Include 100% mechanical redundancy installed online with a float or ultrasonic type system to switch to the standby system automatically if the primary system fails.
- D. Piping redundancy may be required for relatively long bypass piping lengths or large diameter bypass pipes as deemed necessary by the CITY.
- E. Suction and discharge points shall only be located at wetwells.
- F. If at any time the Contractor is unable to properly bypass pump the sewage, construction will be stopped until the Contractor can continue work in an acceptable manner. Additional contract time for delays caused by improper equipment, labor, or breakdowns will not be considered.
- G. Service shall be maintained at all times. Surcharges due to plugging the sewer line for bypass pumping shall be maintained to prevent service backups and overflows anywhere in the system.
- H. For rehabilitation projects and only with the CITY's approval, a hose may be used for 48 hours or less. If the anticipated bypass time exceeds 48 hours, use hard piping only. If using a hose when the bypass time reaches 48 hours, the Contractor may either install hard piping to accomplish the bypass or restore flow until an approved bypass method can be employed. No modifications to the bypass system shall be made without CITY's approval.
- I. The bypass or diversion pumping system shall be able to pump all of the sewage in the existing line regardless of the performance period's weather and seasonal conditions. All pumping equipment to be used shall be submitted to the CITY for review and approval.
- J. Bypass pumping systems are required to be operated and continuously monitored 24-hours per day for flow diversion.

- K. The bypass pumping must be initiated at the manhole upstream of the wetwell being rehabilitated and continue to either: 1) a manhole downstream of the wetwell; OR, 2) into a new tap(s) in the existing 24" force main as provided and coordinated with the City.
- L. The temporary diversion pumping system shall be placed in operation prior to the commencement of work in the areas being bypassed. Minimum times of operation prior to the commencement of work are 2 hours for any other major system work such as trunk sewer diversion, large diameter sewer lining, or pumping station work.
- M. Provide the necessary stop/start controls and a visual alarm indicating a pump malfunction for each pump.

3.02 PERFORMANCE REQUIREMENTS

- A. It is essential for the operation of the existing system being bypassed that no interruptions in the flow occur throughout the project's duration. Provide, maintain, and operate all temporary facilities such as dams, plugs, pumping equipment (primary and backup units as required), conduits, all necessary power, and all other labor and equipment necessary to intercept the incoming flow before it reaches the point where it would interfere with the work, carry it past the work area, and return it to the existing system downstream of the work.
- B. The temporary pumping system's design, installation, and operation shall be the Contractor's responsibility. The bypass system shall meet all codes and requirements for regulatory agencies having jurisdiction.
- C. The temporary pumping system's design, installation, and operation shall address system flow variations for diurnal peaks and low flows during the pumping period.
- D. Provide all necessary means to safely convey the sewage past the work area. The Contractor will not be permitted to stop or impede the sewer main flows under any circumstances.
- E. No flow diversion around the work area shall be performed in a manner that will cause damage to or the surcharging of City system. The diversion shall protect public and private property from damage and flooding.
- F. Protect water resources, wetlands, and other natural resources.

3.03 FIELD QUALITY CONTROL AND MAINTENANCE

- A. Testing: Prior to actual operation, test the bypass pumping discharge hard piping system for leaks and pressure using clean water. Bypass hard piping shall be hydrostatically tested following each setup and prior to flow diversion or bypass to a minimum pressure 1.5 times the pump(s) total dynamic head. The CITY shall be given a 24-hour notice prior to testing.
- B. Inspection: Inspect the bypass pumping system on a continuous basis to ensure the system is working properly. A daily checklist for physically inspecting the piping shall be required. The checklist shall contain all bypass pumping system components and shall be specifically developed to address aspects for the individual project.

- C. Maintenance Service: Ensure that the temporary bypass pumping system is properly maintained and that a responsible operator shall be readily available at all times when pumps are operating.

- D. Monitoring
 - 1. During bypass pumping, continuously monitor all bypass pumping system components.
 - 2. A telemetry system or designated personnel to maintain 24-hour onsite monitoring shall be required to alert the Contractor to system malfunctions or high liquid levels in wetwells.
 - 3. If bypass pumping activities are conducted near State waters or in other situations where the potential exists for a sewage release to potentially enter State waters by other than direct means, an in-line stream monitoring system shall be used to measure real-time conductivity and dissolved oxygen (DO) concentrations in 30-minute intervals at a minimum. The system shall be mounted in the receiving stream in the immediate downstream area(s) adjacent to the location(s) of the bypass piping system discharge to the gravity conveyance system. The system shall have web-portal capabilities with alarm functions for conductivity and DO. The alarm function shall be equipped with battery power and solar charging provisions and shall be able to send e-mail and text messaging alarms to at least five devices.

- E. Additional Materials
 - 1. Spare parts for pumps and piping shall be kept on site as required.
 - 2. Repair kits for piping shall be kept on site as required.

- F. Installation and Removal
 - 1. Remove manhole sections or make connections to the existing conveyance system. Construct temporary bypass pumping structures only at the access location(s) indicated on the Drawings and as may be required with CITY's approval to provide adequate suction conduit.
 - 2. Plugging or blocking flows shall incorporate a primary or secondary plugging device. When plugging or blocking is no longer needed for work performance and acceptance, it is to be removed in a manner that permits the sewage flow to slowly return to normal without surge flows to prevent surcharging or causing other major disturbances downstream.
 - 3. When working inside manholes, wetwells, sewers, or force mains, exercise caution and comply with all applicable OSHA requirements.
 - 4. When the bypass pipeline crosses local streets and private driveways, place the bypass pipelines in trenches and cover with temporary pavement or other protected means of pipe crossing. Obtain any property owner approvals for placing the temporary pipeline.

3.04 CLEANUP

- A. Upon acceptance of the installation work and testing, restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

END OF SECTION

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SECTION 33 04 45

SANITARY SEWER WET WELL REHABILITATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Sanitary sewer wet well rehabilitation including:
 - 1. Rehabilitation and leak-proofing of wetwell by lining with spray applied epoxy resin systems.
 - 2. The repair and sealing of the wetwell base, invert, walls, corbel/cone, and chimney of brick, block, or precast wetwell, including the removal of any unsound material.
 - 3. The inspection and testing of the various types of work to insure compliance.

1.2 LINING SYSTEMS

- A. The lining system used shall result in a monolithic structure to the shape and contour of the interior of the existing wetwell. The lining system shall be completely water tight and free of any joints or openings other than pipe inlets, pipe outlets and the rim opening. The junction of the lining material with the pipe material at the inlets and outlets shall be watertight.
- B. Lining system shall be of the type that allows rehabilitation of a concentric, eccentric or flat top wetwell without removing the wetwell ring and top section or corbel.

1.3 SUBMITTALS

- A. Submit the following as required in Section 01340 at least 14 days prior to starting wetwell rehabilitation:

Manufacturers' Certificate of Compliance certifying compliance with the applicable specifications and standards. The certifications shall list all materials furnished under this Section.

1. Certified copies of test reports of factory tests required by the applicable standards, the manufacturer, and this Section.
2. Manufacturer's handling, storage, and installation instructions and procedures.
3. Recommended lining thickness design to withstand groundwater pressure as specified in Part 3 of this Section.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General:

1. The materials used shall be designed, manufactured and intended for sewer wetwell rehabilitation and the specific application in which they are used. The materials shall have a proven history of performance in sewer wetwell rehabilitation. The materials shall be delivered to the job site in original unopened packages and clearly labeled with the manufacturer's identification and printed instructions. All materials shall be stored and handled in accordance with recommendations of the manufacturer. All materials shall be mixed and applied in accordance with the manufacturer's written instructions.
2. The Contractor shall warrant and save harmless the Owner and his Engineer against all claims for patent infringement and any loss thereof.
3. Handle and store all materials and dispose of all wastes in accordance with applicable regulations.
4. Each system shall be designed for application over wet surfaces (but not active running water) without degradation of the final product and/or the bond between the product and the wetwell surfaces.

B. Stopping active leaks in concrete and masonry wetwell:

1. A quick setting hydraulic cement compound used to stop seepage leaks in masonry or concrete (Permacast-Plug or equal). A premixed fast-setting, volume-stable waterproof cement plug consisting of hydraulic cement, graded silica aggregates, special plasticizing and accelerating agents. It shall not contain chlorides, gypsums, plasters, iron particles, aluminum powder or gas-forming agents, or promote the corrosion of steel it may come in contact with. Set time shall be approximately 60 to 180 seconds. Ten-minute compressive strength shall be approximately 500 psi.
2. The elastomeric polyurethane resin-soaked method, using dry twisted jute oakum or resin-rod with polyurethane resin (water activated).

3. Chemical grouts (Avanti AV-202 Multigrout Urethane Resin or equal) injected to the exterior for stopping very active infiltration in accordance with manufacturer's recommendations.
- C. Patching, repointing, filling, and repairing nonleaking holes, cracks, and spalls in concrete and masonry wetwell:
1. A premixed nonshrink cement-based patching material consisting of hydraulic cement, graded silica aggregates, special plasticizing and accelerating agents, which has been formulated for vertical or overhead use. It shall not contain chlorides, gypsums, plasters, iron particles, aluminum powder, or gas-forming agents or promote the corrosion of steel it may come into contact with. Set time (ASTM C-191) shall be less than 30 minutes. One-hour compressive strength (ASTM C-109) shall be a minimum of 200 psi and the ultimate compressive strengths (ASTM C-882-Modified) shall be a minimum of 1700 psi.
- D. Exterior Chemical Curtain Grouting and/or for Major Active Leaks (>0.5 gpm)
1. Exterior chemical curtain grouting shall be used to stop significant infiltration sources. Chemical curtain grouting shall be solvent-free, hydrophilic resin designed to seal leaks in concrete and masonry structures. When it contacts water, chemical grout shall expand exponentially and form a tough, flexible foam seal that cannot be penetrated by water. Chemical curtain grouting shall be manufactured by Avanti International, DeNeef Construction Chemicals, or approved equal.

2. Exterior chemical curtain grouting shall be applied according to manufacturer's recommendations and shall have the following minimum requirements:

Minimum Requirements		
Bond Strength	ASTM C882	60 psi
Tensile Strength	ASTM D3574 ASTM D1623, free rinse	310 psi 54 psi
Elongation	ASTM D3574 ASTM D1623, free rinse	280% 64%
Shrinkage	ASTM D1042/D756	< 2%
Internal Linear Shrinkage		5%
Tear Resistance	ASTM D3574	20 lbs/in
Density	ASTM D3574	30.8 lbs/ft ³

3. Cured properties will vary depending on job conditions. Cured properties above (ASTM D3574) are derived from 10-15 pcf foam. Free rise properties are derived from 3-5 pcf foam.
4. Exterior chemical curtain grouting shall be suitable for the intended purpose and shall be compatible with the monolithic lining as certified by the manufacturer.

2.2 Epoxy Resin System

A. Spray applied epoxy resin system wetwell lining:

1. The material sprayed onto the surface of the wetwell shall be an epoxy resin (similar to Raven 405, or Warren Environmental Systems M-201 and S-301) system formulated for application within a sanitary sewer environment. The resin will exhibit suitable corrosion resistance and enhance the structural integrity of the existing wetwell.
2. The cured epoxy resin system shall conform to the following minimum structural standards:

<u>DESCRIPTION</u>	<u>TEST METHOD</u>	<u>RESULTS</u>
Tensile Strength	ASTM D-638	7,000 psi
Flexural Strength	ASTM D-790	11,000 psi
Flexural Modulus	ASTM D-790	500,000 psi
Compressive Strength	ASTM D-695	12,000 psi

PART 3 - EXECUTION

3.1 REHABILITATION OF WETWELL STRUCTURE

- A. General Procedures:
1. Safety: The Contractor shall perform all work in strict accordance with all applicable OSHA, TOSHA, and manufacturer's safety standards. Each method of wetwell rehabilitation in this Section requires some degree of wetwell entry by workers. Particular attention is drawn to those safety requirements regarding confined space entry and respiratory protection from airborne particulate materials during cleaning and product mixing and application.
 2. Cleaning: All concrete and masonry surfaces to be rehabilitated shall be clean. All grease, oil, laitance, coatings, loose bricks, mortar, unsound brick or concrete and other foreign materials shall be completely removed. Water blasting utilizing a 210° F steam unit and proper nozzles shall be the primary method of cleaning; however, other methods such as wet or dry sandblasting, acid wash, concrete cleaners, degreasers or mechanical means may be required to properly clean the surface. All surfaces on which these methods are used shall be thoroughly rinsed, scrubbed, and neutralized to remove cleaning agents and their reactant products. Debris resulting from cleaning shall be removed from the wetwell and not allowed to be carried downstream.
 3. Stop Infiltration: After surface preparation and prior to the application of mortars and linings, infiltration shall be stopped.

This applies to defects within the wetwell as well as any annular spaces between a host pipe and pipe liner. Water seepage shall be stopped with waterproof cement plug material or water activated polyurethane resins. Severe leaks which cannot be stopped with either of these two specified materials shall be reported to the Owner. If so directed by the Owner, then these severe leaks shall be stopped using chemical (urethane) grout injected through the wetwell wall, the invert or the bench (as appropriate). Excess cured grout shall be completely removed from the inside surface before further patching or lining.

4. Patching: All large holes or voids around steps, joints or pipes, all spalled areas and all holes caused by missing or cracked brick shall be patched and all missing mortar repointed using a nonshrink patching mortar. All cracked or disintegrated material shall be removed from the area to be patched or repointed, exposing a sound subbase. All cracks not subject to movement and greater than 1/16 inch in width shall be routed out to a minimum width and depth of 1/2 inch and patched with nonshrink patching mortar.
5. Flow Control: The Contractor shall be responsible for plugging or diverting the flow of sewage as needed for repair and lining of wetwell inverts and benches.
6. Remove all loose grout and rubble from existing channel. Work shall include aligning inflow and outflow ports in such a manner as to prevent the deposition of solids at the transition point. All inverts shall follow the grades of the pipe entering the wetwell. Changes in direction of the sewer and entering branch or branches shall have a true curve of as large a radius as the size of the wetwell will permit, but will be shaped to allow easy entrance of maintenance equipment including buckets, T.V. camera, etc.
7. Wetwell steps: Inspect all wetwell steps prior to rehabilitation. Report to the Engineer any steps which appear loose, deteriorated, broken, or otherwise unsafe.
8. Each system shall be installed in accordance with the manufacturer's recommendation to withstand groundwater pressures. For wetwells greater than 12 feet in depth, the lining shall withstand the pressures associated with a groundwater depth equal to the wetwell depth. Linings for all other wetwells shall withstand the pressures associated with groundwater depth of 12 feet. Measure groundwater depth from wetwell bench to top of ground surface.
9. Application of products shall be by factory certified applicators.

3.2 SPRAYED APPLIED EPOXY RESIN SYSTEM

- A. The epoxy resin shall be sprayed onto the surfaces of the wetwell walls, and the benches to produce a smooth coating and yield the required structural integrity and corrosion resistance. A depth gauge shall be used during application at various locations to verify the required thickness.
- B. The epoxy resin shall be applied to a minimum thickness of 0.125 inches at the top of the wetwell and gradually thickened, in accordance with manufacturer's recommendations, to withstand groundwater pressures. The application shall have a minimum of three hours cure time before being subjected to active flow.
- C. The sloped surface of the wetwell bench shall be made non-skid by broadcasting aluminum oxide or sand into the surface prior to gelatin/set.

3.3 WETWELL REHABILITATION ACCEPTANCE

- A. Any visible leakage in the wetwell or structure, before, during, or after the test shall be repaired regardless of any test results.
- B. Testing for Epoxy Coating Rehabilitation
 - 1. During application a wet film thickness gauge, meeting ASTM D4414 - Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used. Measurements shall be taken, documented and attested to by Contractor for submission to Owner.
 - 2. After the coating product(s) have set in accordance with manufacturer instructions, all surfaces shall be inspected for holidays with high-voltage holiday detection equipment. Reference NACE RPO 188-99 for performing holiday detection. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or other hand tooling method. After abrading and cleaning, additional coating can be hand applied to the repair area. All touch-up/repair procedures shall follow the coating manufacturer's recommendations. Documentation on areas tested, results and repairs made shall be provided to Owner by Contractor.

END OF SECTION 33 01 45 – SANITARY SEWER WETWELL REHABILITATION

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Appendix A

Drawings

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WASTEWATER TREATMENT PLANT

DYERSBURG, TENN.

CONTRACT 'B'

1977

(REVISED - 1980)

INTERCEPTORS, FORCE MAIN & PUMPING STATION

INDEX

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NICHOLS ENGINEERING SERVICE INC.

P. O. BOX 628

UNION CITY, TENNESSEE



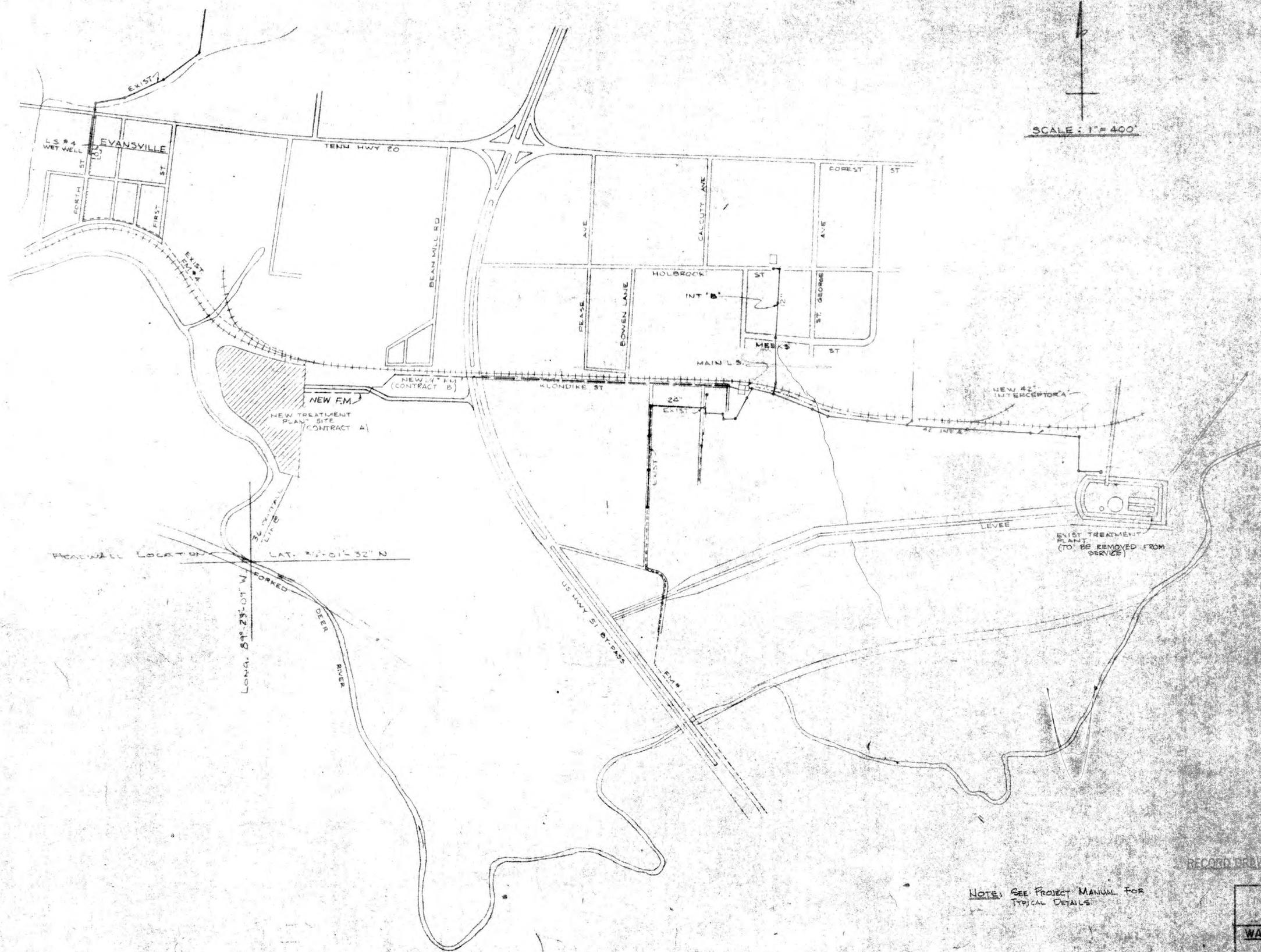
DEC 28 1977

REVISED-NOV 1980
REVISED OCT 1983

FOR REFERENCE ONLY

SHEET: 1 OF 14

12-0005



SCALE: 1" = 400'

HEADWALL LOCATION
 LAT. 34° 01' 32" N
 LONG. 84° 23' 07" W

- LEGEND
- INTERCEPTORS
 - MAINS
 - COLLECTION LINES
 - EXIST FORCE MAIN
 - NEW FORCE MAIN
 - MANHOLES

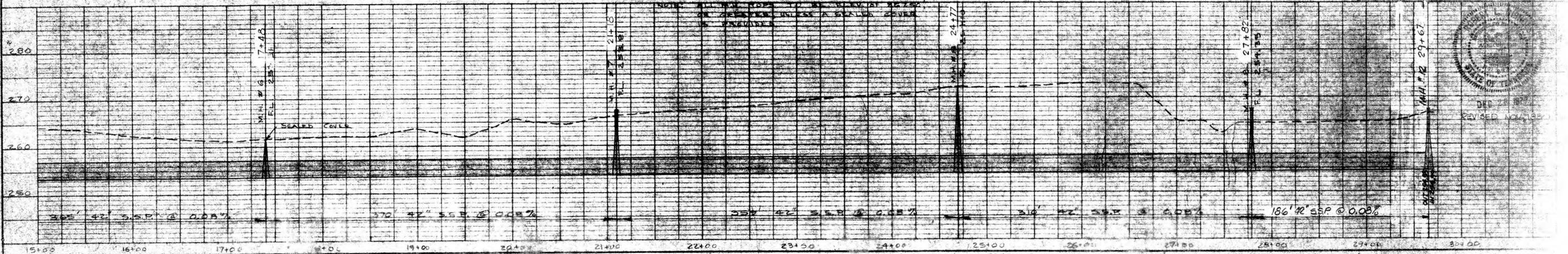
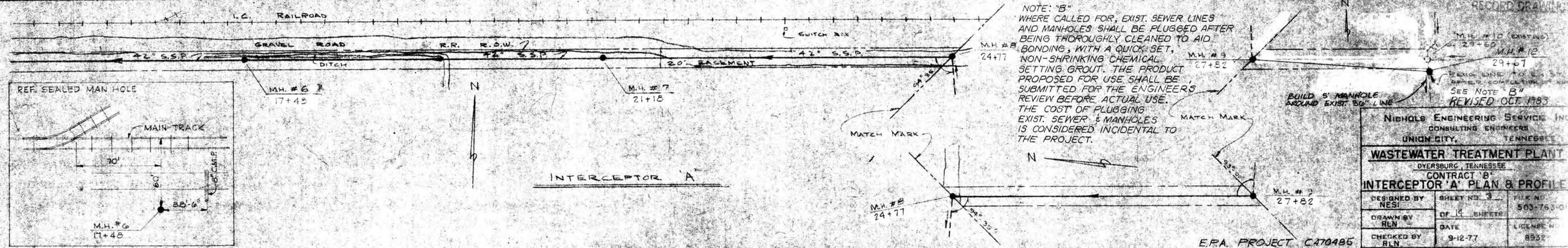
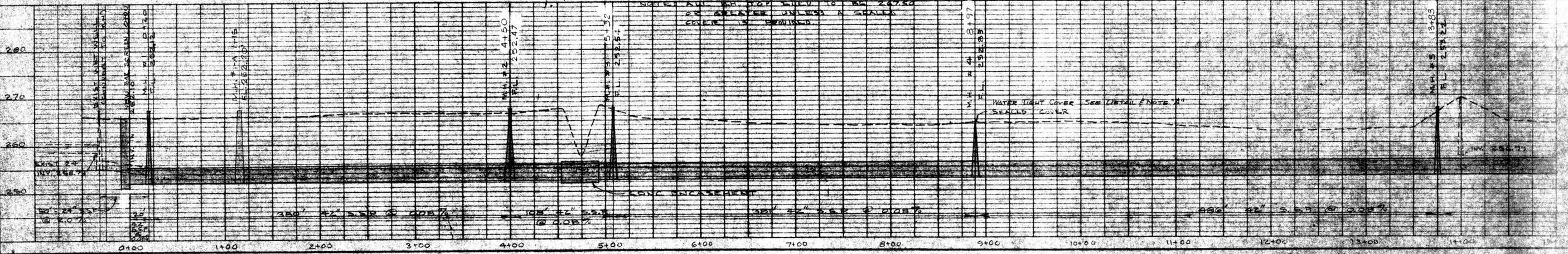
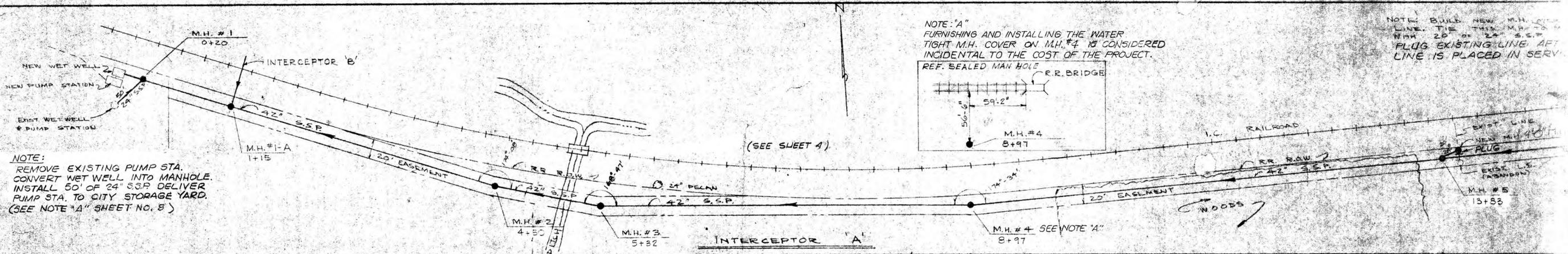


RECORD DRAWING
 DEC 26 1977

NOTE: SEE PROJECT MANUAL FOR TYPICAL DETAILS

FOR REFERENCE ONLY

NICHOLS ENGINEERING SERVICE
 CONSULTING ENGINEERS
 UNION CITY, TENNESSEE
 WASTEWATER TREATMENT
 OVERBORO, TENNESSEE
 KEY MAP



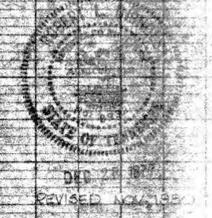
NICHOLS ENGINEERING SERVICE, INC.
CONSULTING ENGINEERS
UNION CITY, TENNESSEE

WASTEWATER TREATMENT PLANT
DYERSBURG, TENNESSEE

CONTRACT "B"
INTERCEPTOR "A" PLAN & PROFILE

DESIGNED BY NESI	SHEET NO. 3	FILE NO.
DRAWN BY RLN	OF 14 SHEETS	503-75301-2
CHECKED BY RLN	DATE 9-12-77	LICENSE NO. 8532

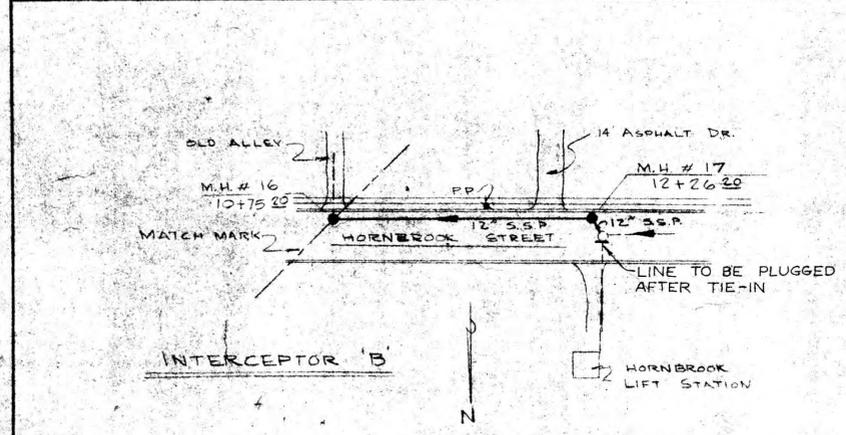
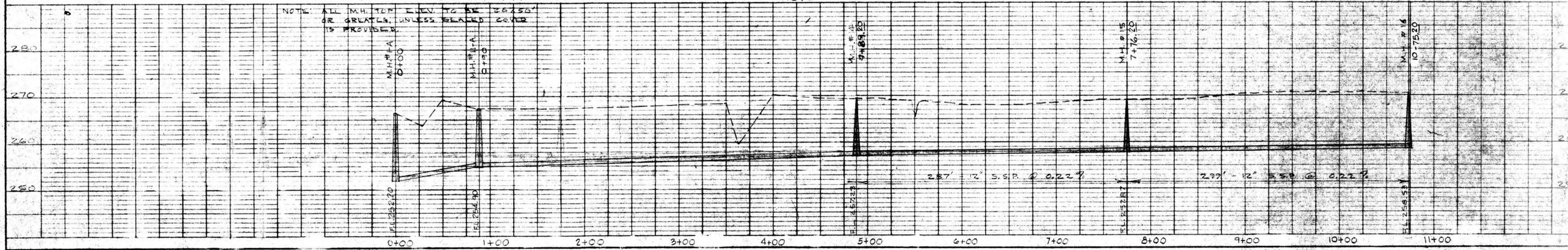
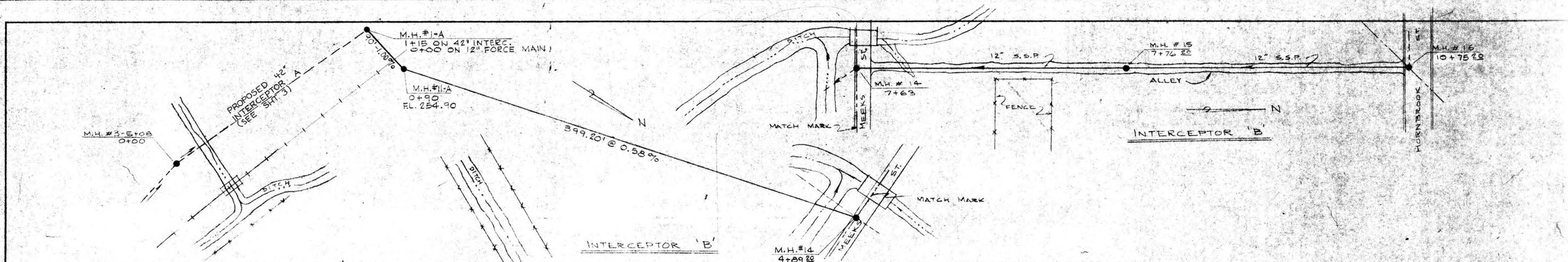
E.P.A. PROJECT C470485



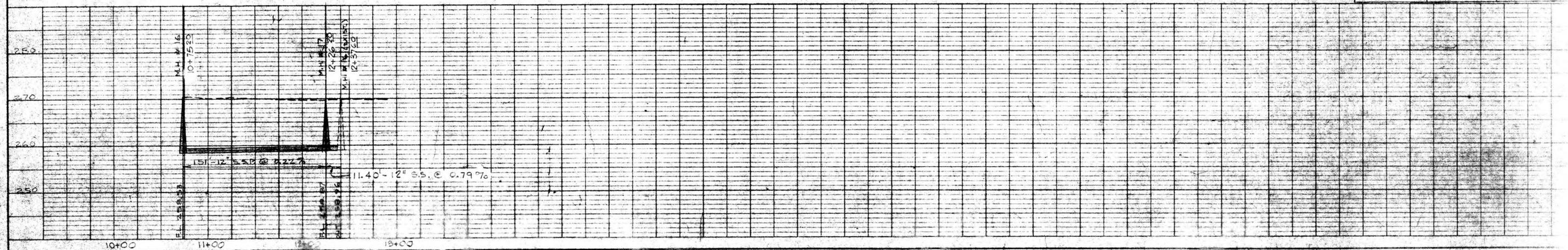
FOR REFERENCE ONLY

PLAN
 DRAWN BY: []
 CHECKED BY: []
 DATE: []

PROFILE
 DRAWN BY: []
 CHECKED BY: []
 DATE: []



NOTE:
 CONNECT 12" S.S.P. INTO EXISTING MANHOLE - REBUILD INVERT IN EXISTING MANHOLE.



RECORDED DRAWINGS
 REVISED OCT. 1983
 REVISED NOV. 1980
 NICHOLS ENGINEERING SERVICE, INC.
 CONSULTING ENGINEERS
 UNION CITY, TENNESSEE
 WASTEWATER TREATMENT PLANT
 DYERSBURG, TENNESSEE
 CONTRACT 'B'
 INTERCEPTOR 'B' PLAN & PROFILE

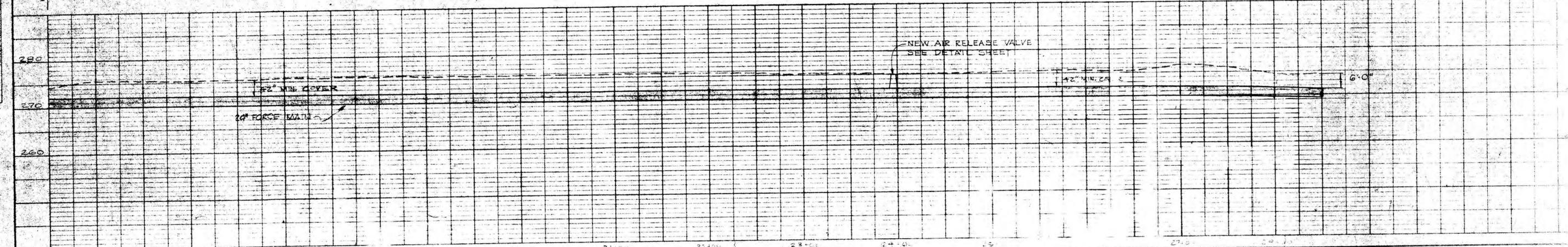
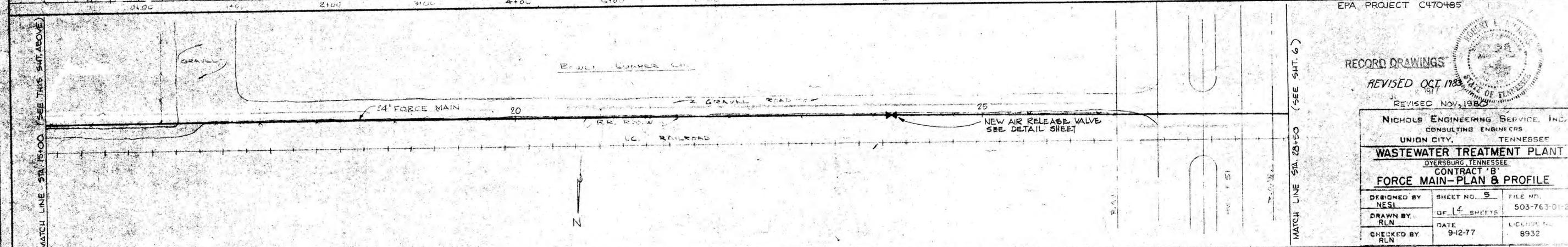
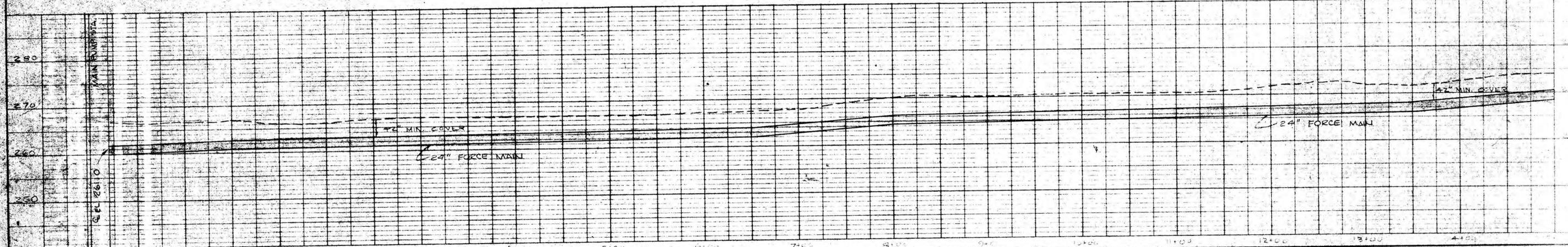
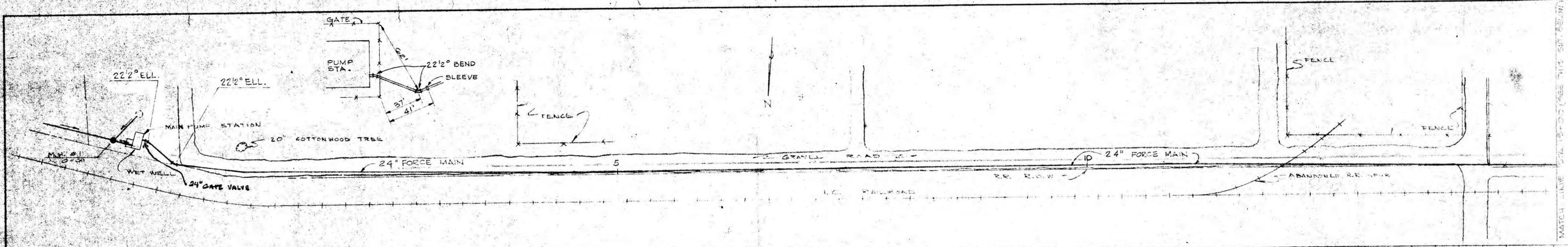
DESIGNED BY NESI	SHEET NO. 4	FILE NO. 503-763-01-2
DRAWN BY RLN	OF 14 SHEETS	LICENSE NO. 8932
CHECKED BY RLN	DATE 9-12-77	

EPA PROJECT C470485

FOR REFERENCE ONLY

PLAN
DATE
BY
CHECKED
APPROVED
NOTE BOOK
NO. OF SHEETS
NO.

PROFILE
DATE
BY
CHECKED
APPROVED
NOTE BOOK
NO. OF SHEETS
NO.



EPA PROJECT C470485

RECORD DRAWINGS
 REVISED OCT 1983
 REVISED NOV 1985

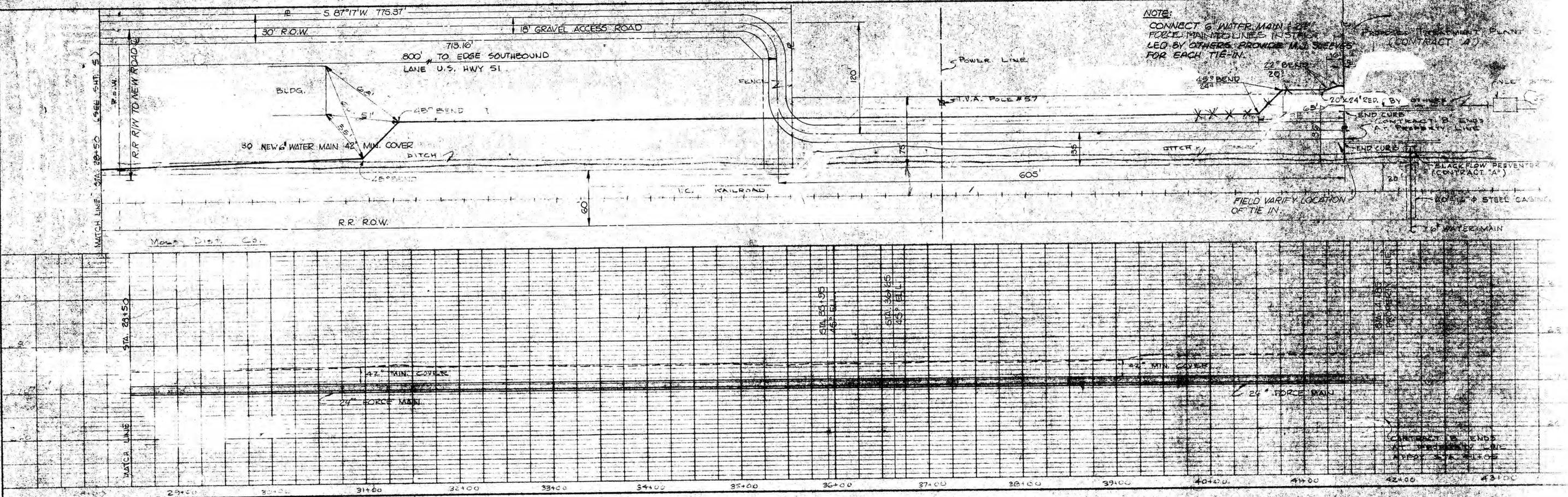
NICHOLS ENGINEERING SERVICE, INC.
 CONSULTING ENGINEERS
 UNION CITY, TENNESSEE
WASTEWATER TREATMENT PLANT
 DYERSBURG, TENNESSEE
CONTRACT 'B'
FORCE MAIN-PLAN & PROFILE

DESIGNED BY NESI	SHEET NO. 5	FILE NO.
DRAWN BY RLN	OF 14 SHEETS	503-763-01-2
CHECKED BY RLN	DATE 9-12-77	LICENSE NO. 8932

FOR REFERENCE ONLY

DATE: _____ BY: _____
 APPROVED: _____
 NOTE BOOK: _____
 No. _____

DATE: _____ BY: _____
 APPROVED: _____
 NOTE BOOK: _____
 No. _____



NOTE:
 CONNECT 6" WATER MAIN TO
 FORCE MAIN TIE LINES INSTALLED
 LED BY OTHERS. PROVIDE 1/2" SLEEVES
 FOR EACH TIE-IN.

PROCESS TREATMENT PLANT
 (CONTRACT 'A')

BLACKFLOW PREVENTER
 (CONTRACT 'A')

FIELD VERIFY LOCATION
 OF TIE IN

CONTRACT 'B' ENDS
 AT PROPERTY LINE
 NEAR 42+00

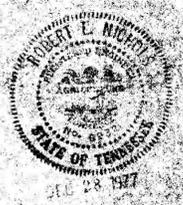
RECORD DRAWINGS
 REVISED OCT. 1983
 EPA PROJECT C470485

NICHOLS ENGINEERING SERVICE, INC.
 CONSULTING ENGINEERS
 UNION CITY, TENNESSEE

WASTEWATER TREATMENT PLANT
 DYERSBURG, TENNESSEE
 CONTRACT 'B'

FORCE MAIN - PLAN & PROFILE

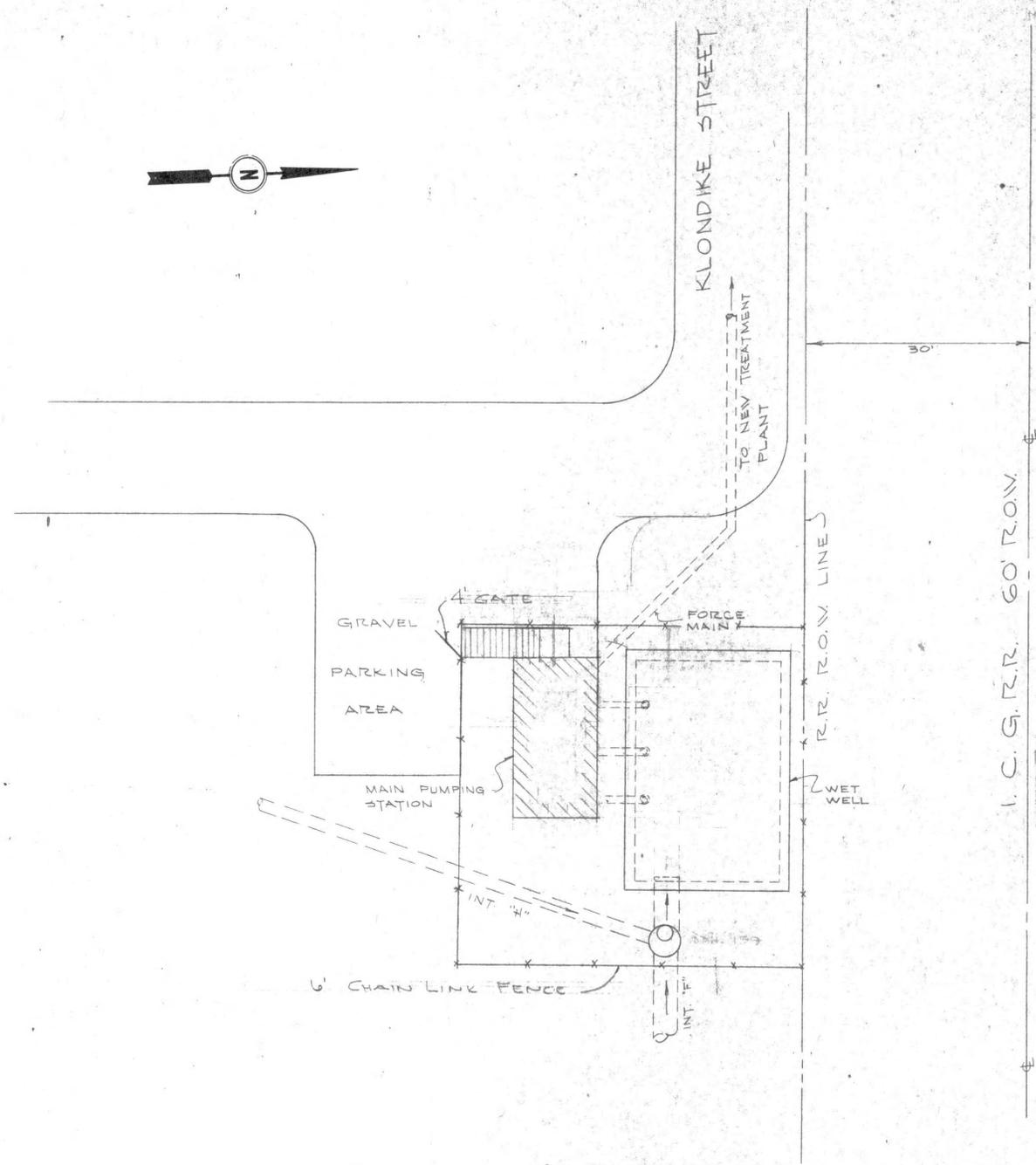
DESIGNED BY NESI	SHEET NO. 6 OF 14 SHEETS	FILE NO. 503-763-016
DRAWN BY RLN	DATE 9-12-77	LICENSE NO. 8932
CHECKED BY RLN		



REVISED NOV. 1980

FOR REFERENCE ONLY

DATE BY	REVISION RECORD	AUTH. DR. CR.



SITE PLAN
MAIN PUMPING STATION
 SCALE: 1"=10'

APPROVED FOR CONSTRUCTION
 THE DOCUMENT BEARING THIS STAMP HAS BEEN RECEIVED AND REVIEWED BY THE
 TENNESSEE DEPARTMENT OF PUBLIC HEALTH
 DIVISION OF WATER QUALITY CONTROL
 AND IS HEREBY APPROVED FOR CONSTRUCTION BY THE COMMISSIONER.
 SEP 21 1977
 THE APPROVAL SHALL NOT BE CONSTRUED AS CREATING A PRESUMPTION OF COR-
 RECT OPERATION OR AS WARRANTING BY THE COMMISSIONER THAT THE APPROVED
 FACILITIES WILL MEET THE DESIGNED GOALS.
 FILE

NICHOLS ENGINEERING SERVICE, INC.
 CONSULTING ENGINEERS
 UNION CITY, TENNESSEE

WASTEWATER TREATMENT PLANT
 DYERSBURG, TENNESSEE
 CONTRACT 'B'
 'LIFT STATION SITE PLAN'

DESIGNED BY NESI	SHEET NO. 7	FILE NO. 503-763-01-2
DRAWN BY NESI	OF 10 SHEETS	LICENSE NO.
CHECKED BY NESI	DATE 7-7-77	8932

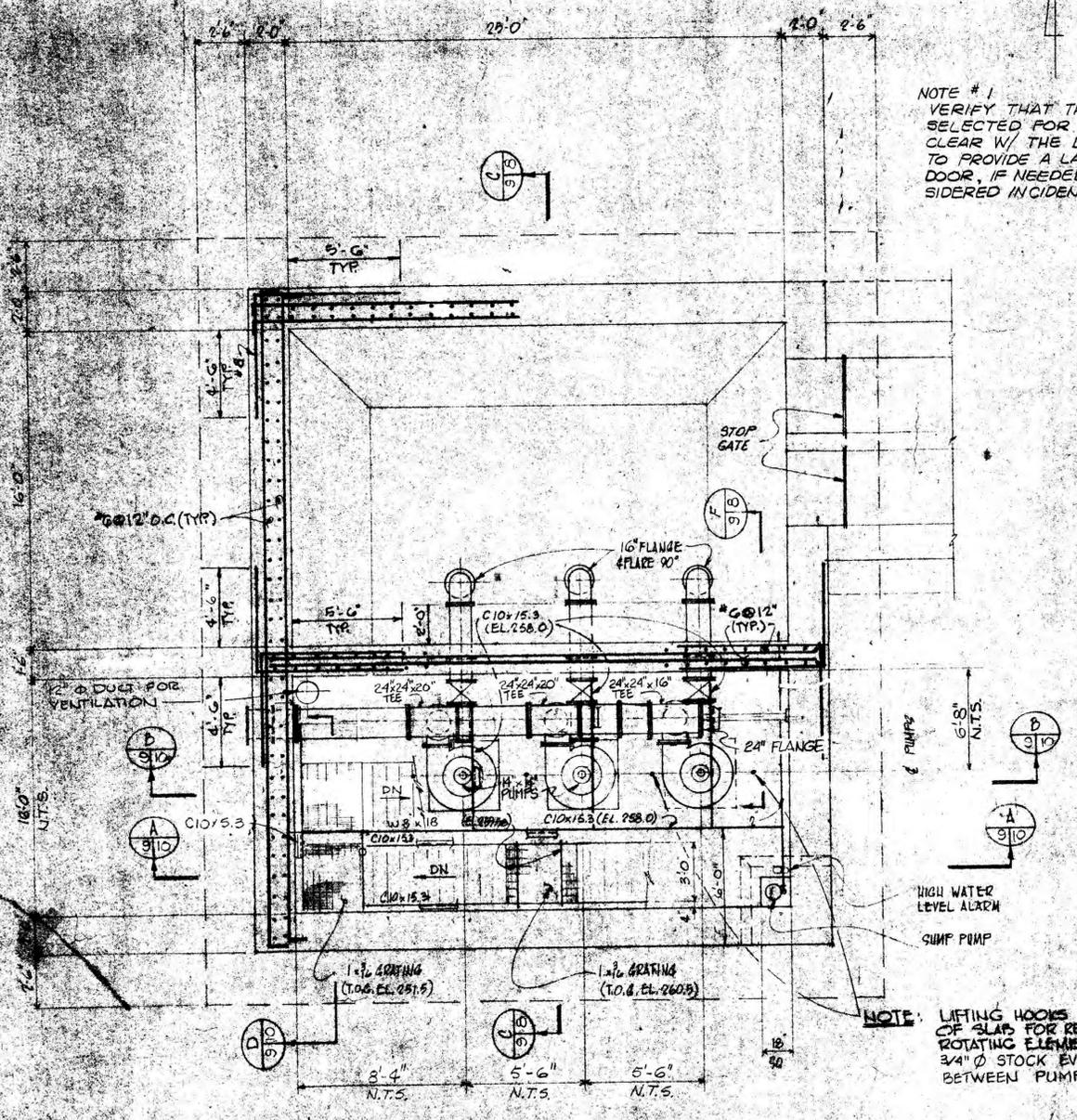
FOR REFERENCE ONLY

DATE	BY	REVISION	REASON

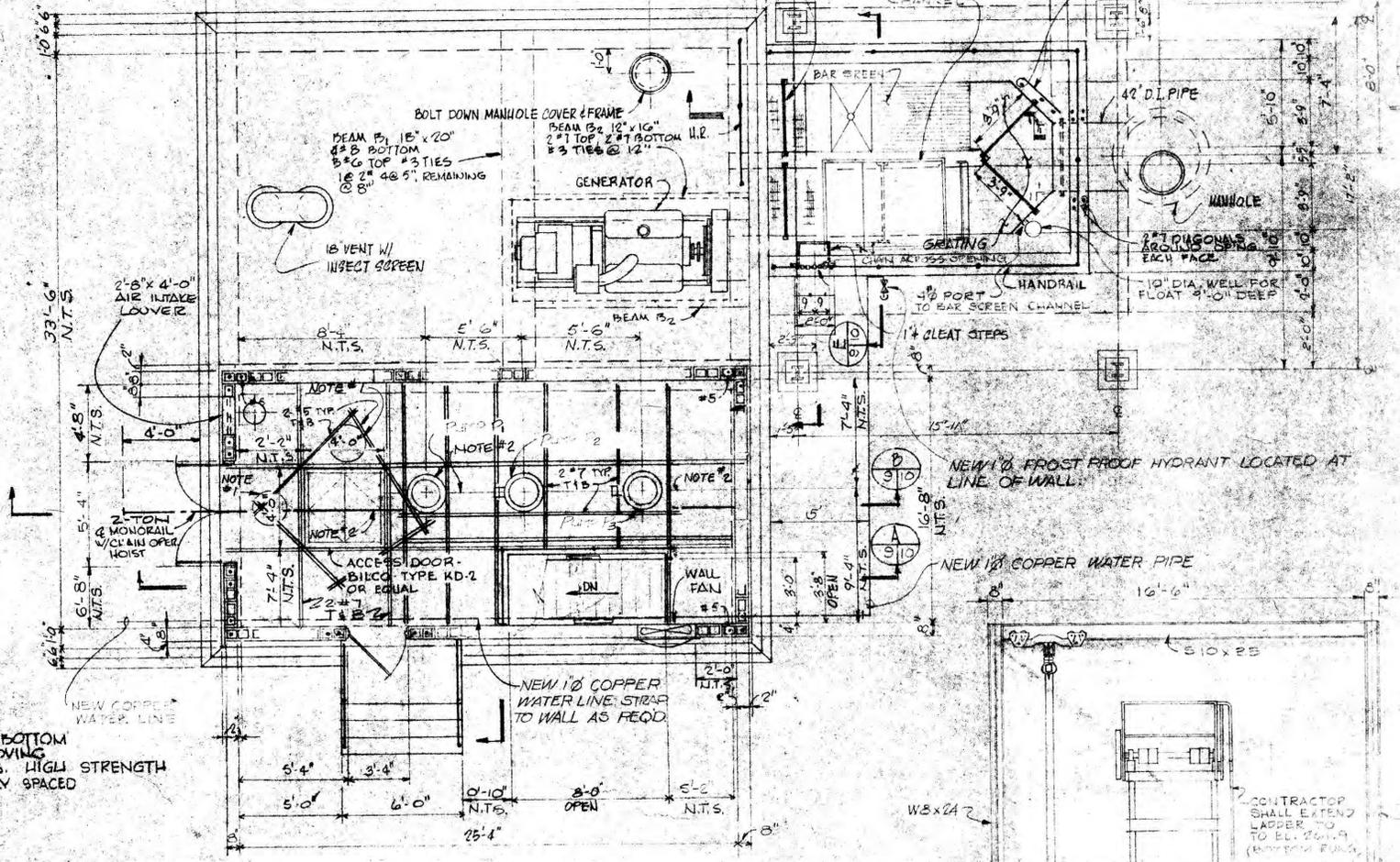
NOTE #2
THE CENTERLINE OF THE PUMPS & THE CENTERLINE OF THE ACCESS DOOR ARE ALIGNED BY DIMENSION, ALTHOUGH NOT SHOWN AS SUCH IN PLAN.

NOTE:
DO NOT SCALE THIS DRAWING.
USE STATED DIMENSIONS ONLY.

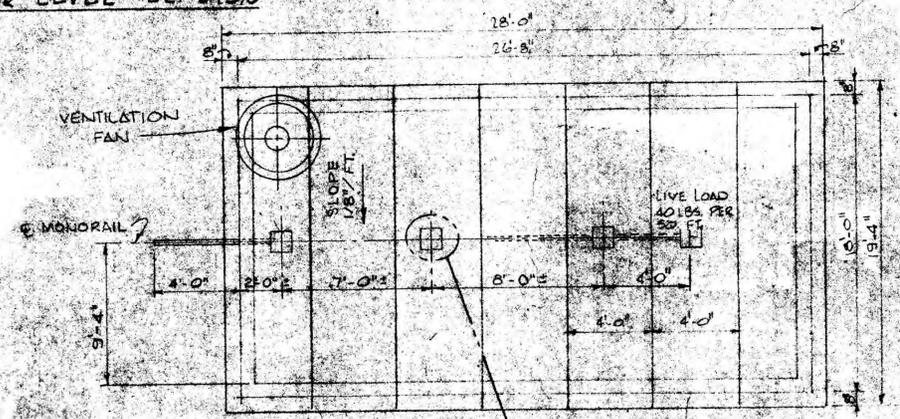
NOTE #1
VERIFY THAT THE ACTUAL PUMP SELECTED FOR THIS PROJECT WILL CLEAR W/ THE DIMENSIONS. ALL COSTS TO PROVIDE A LARGER OPENING & ACCESS DOOR, IF NEEDED, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.



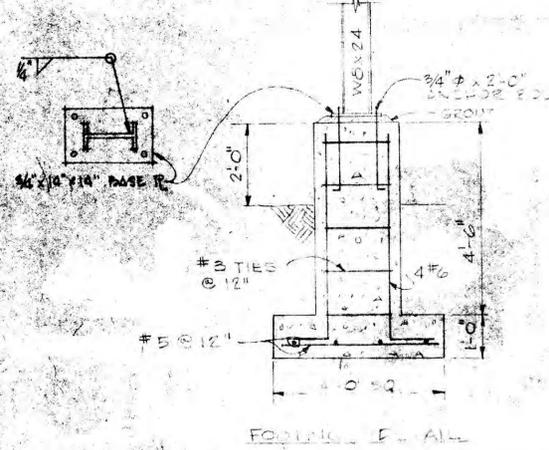
PLAN - FLOOR LEVEL - EL. 243.0
SCALE: 1/4" = 1'-0"



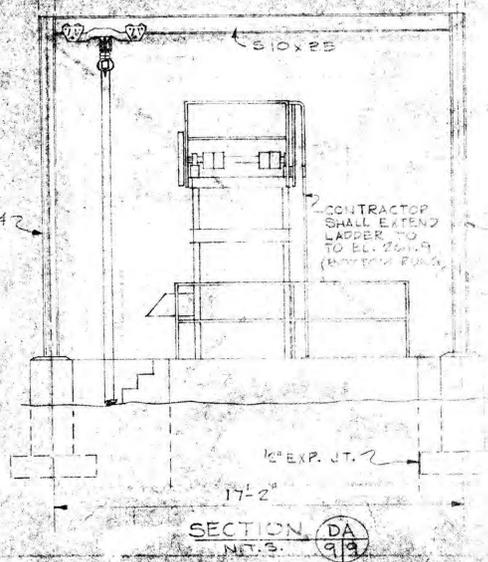
PLAN - FLOOR LEVEL - EL. 268.5
SCALE: 1/4" = 1'-0"



ROOF PLAN
SCALE: 1/4" = 1'-0"
DESIGN LOAD = 40 PSF PLUS 2-TON MONORAIL
3" HOLLOWCORE SLAB



FOOTINGS FOR ALL



SECTION DA
N.T.S.

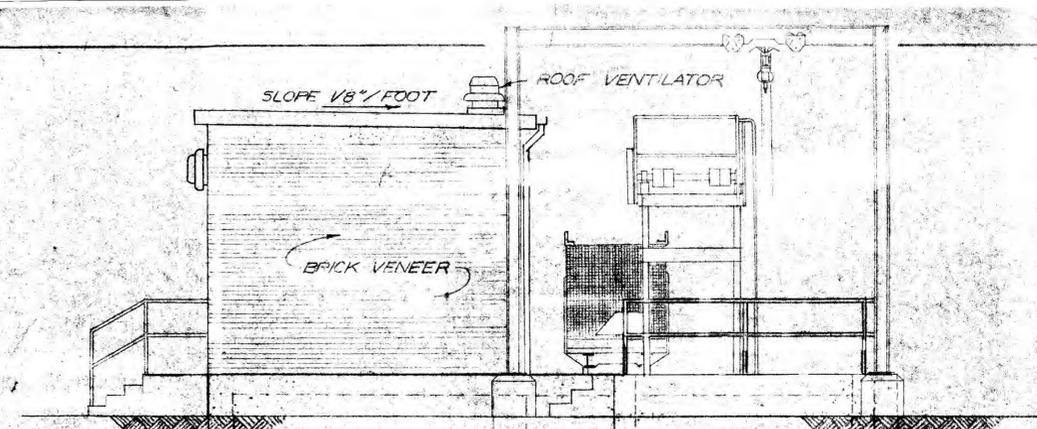
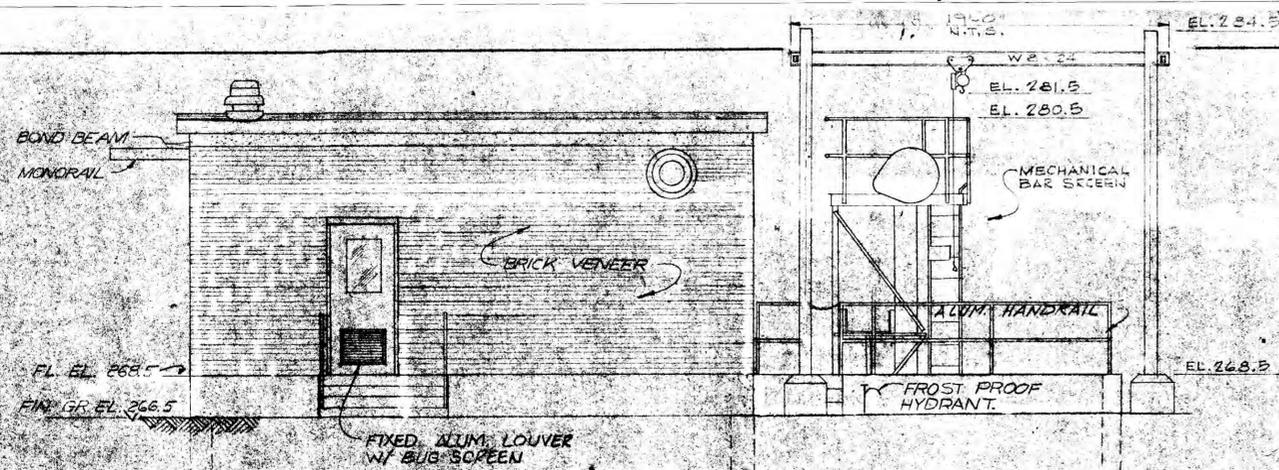
RECORD DRAWINGS
REVISED OCT. 1983



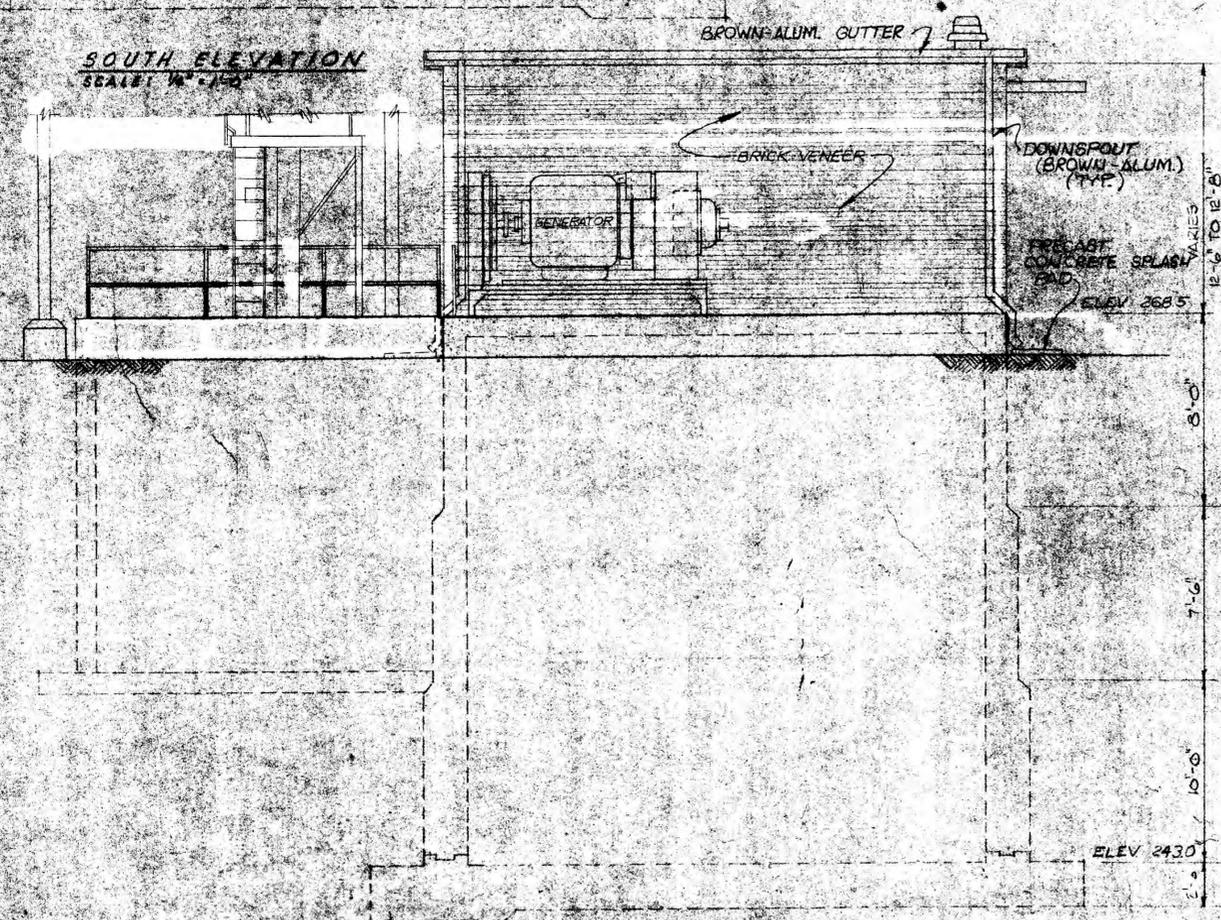
ERA PROJECT C470485
NICHOLS ENGINEERING SERVICE, INC.
CONSULTING ENGINEERS
UNION CITY, TENNESSEE
WASTEWATER TREATMENT PLANT
DYERSBURG, TENNESSEE
CONTRACT "B"

DESIGNED BY NESI	DRAWN BY JWC	CHECKED BY NESI	SHEET NO. 9	DATE 9-14-77	FILE NO. 503-763
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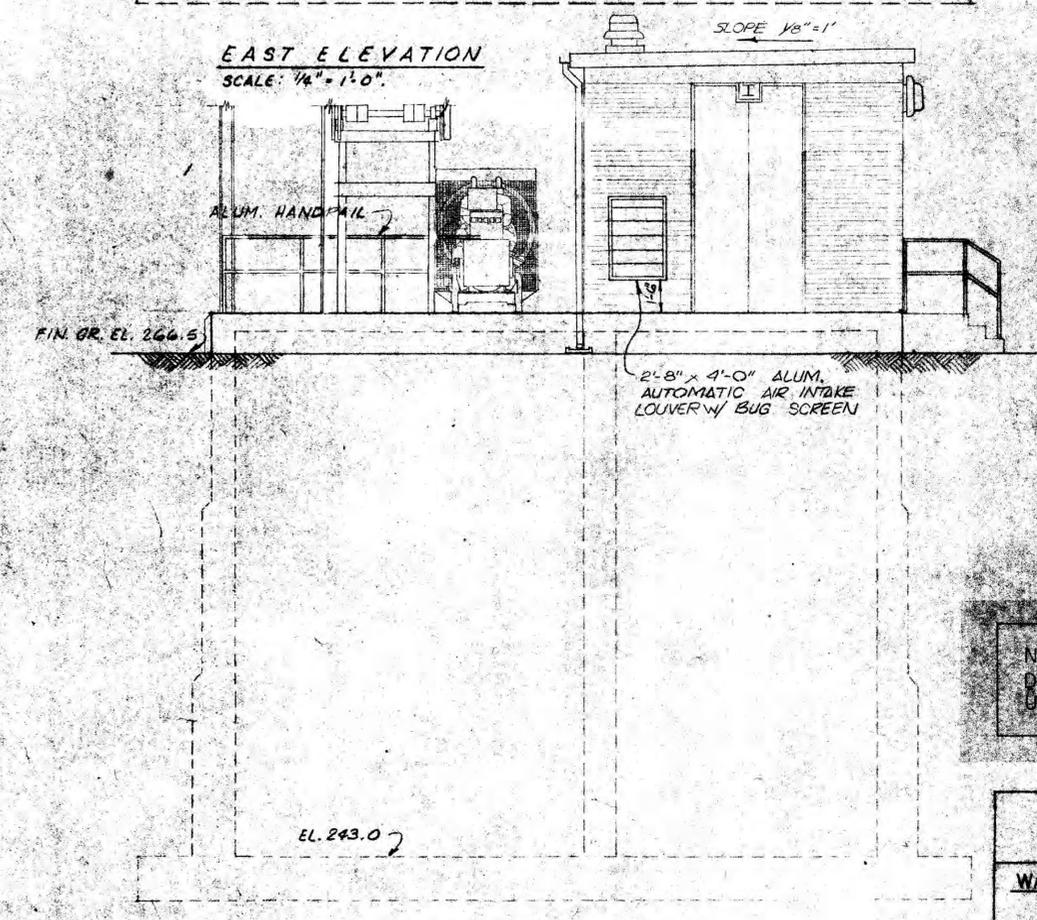
FOR REFERENCE ONLY



SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



EAST ELEVATION
SCALE: 1/4" = 1'-0"



NORTH ELEVATION
SCALE: 1/4" = 1'-0"

WEST ELEVATION
SCALE: 1/4" = 1'-0"

FOR REFERENCE ONLY

RECORD DRAWINGS

NOTE:
DO NOT SCALE THIS DRAWING
USE STATED DIMENSIONS ONLY.

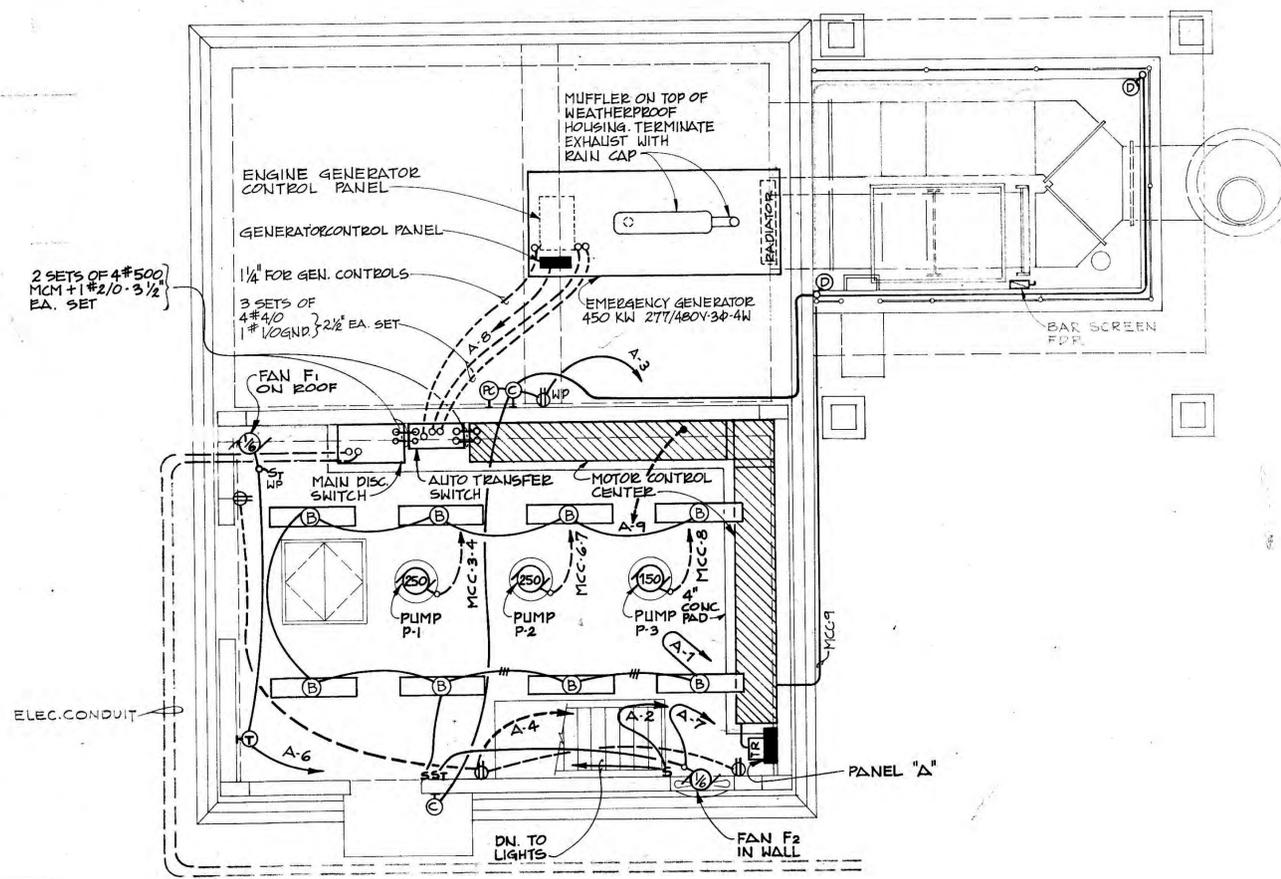
EPA PROJECT C470495

NICHOLS ENGINEERING SERVICE, INC.
CONSULTING ENGINEERS
UNION CITY, TENNESSEE

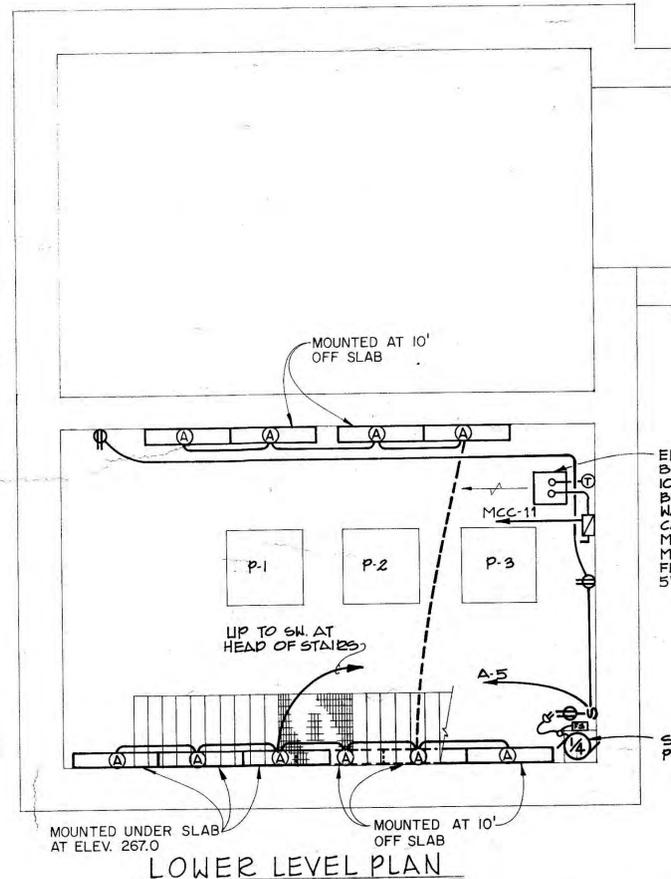
WASTEWATER TREATMENT PLANT
OVERBURG, TENNESSEE
CONTRACT "B"
MAIN LIFT STATION ELEVATION

DESIGNED BY NESI	DRAWN BY JBA	CHECKED BY GAY	DATE SEPT 1977	SHEET NO. 11	TOTAL SHEETS 503-725
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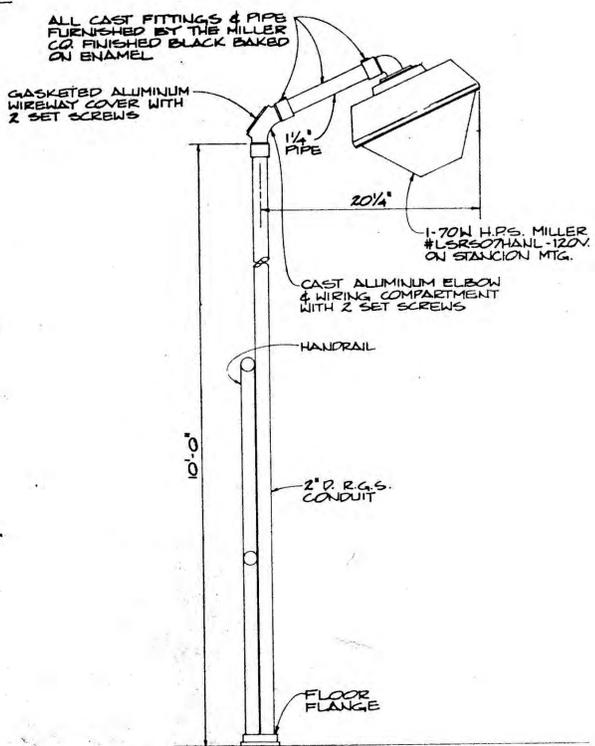
REVISED OCT. 1983
REVISED JAN. 2000



UPPER LEVEL PLAN
SCALE: 1/4" = 1'-0"



LOWER LEVEL PLAN
SCALE: 1/4" = 1'-0"



FIXTURE TYPE "D"
MOUNTING DETAIL
N.T.S.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
(Symbol: Solid line)	CONDUIT CONCEALED IN WALL OR CEILING
(Symbol: Dashed line)	CONDUIT CONCEALED IN FLOOR SLAB
(Symbol: Solid line with arrow)	CONDUIT RUN EXPOSED
(Symbol: Solid line with two arrows)	HOMERUN CONDUIT WITH 2 CIRCUITS & 3 #12 WIRES
(Symbol: S)	SINGLE POLE SWITCH
(Symbol: Sw)	SWITCH
(Symbol: St)	THERMAL SWITCH
(Symbol: Square with circle)	SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE
(Symbol: Square with circle and line)	WALL BRACKET MOUNTED LIGHT FIXTURE
(Symbol: Circle with line)	POLE MOUNTED LIGHT FIXTURE
(Symbol: Square with circle and line)	DUPLEX RECEPTACLE
(Symbol: Square with circle and line)	DUPLEX RECEPTACLE WITH WEATHERPROOF COVER
(Symbol: Square with circle and line)	JUNCTION BOX
(Symbol: Square with circle and line)	NON-FUSIBLE DISCONNECT SWITCH
(Symbol: Square with circle and line)	MOTOR STARTER
(Symbol: Square with circle and line)	MOTOR WITH HORSEPOWER INDICATED
(Symbol: Square with circle and line)	ELECTRIC UNIT HEATER
(Symbol: Square with circle and line)	THERMOSTAT
(Symbol: Square with circle and line)	PANELBOARD - SEE SCHEDULE
(Symbol: Square with circle and line)	PHOTOELECTRIC CONTROL - TORK # 2101, 2000W.
(Symbol: Square with circle and line)	TRANSFORMER
(Symbol: Square with circle and line)	FLOAT SWITCH

FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	NUMBER & SIZE LAMPS	MOUNT	REMARKS
A	MORRIS-KURTZON	SS-COR-248-V	2-F40T12HO	WALL	ENCLOSED & GASKETED (SEAN ROOF) B. LEAKS
B	LITHONIA	AF-240	2-F40T12	PENDENT	
C	ACME-DUNBAR	2421-WF-120	1-70W H.P.S.	WALL BRACKET	BLACK HOUSING 10"H, 1 1/2"C.
D	MILLER	LSR507HANL-120	1-70W H.P.S.	STANCHION	

PANELBOARD SCHEDULE

PANEL	CIRCUIT NO. IN USE (EXCEPT)	LOAD	CIR. BKR.	WIRE SIZE	PURPOSE
"A"	1-3	2.0 KW	20/1	#12	LIGHTS
	4-5	1.2 KW	20/1	#12	RECEPT.
	6-7	20 1/2 HP	20/1	#12	VENT/EXH FANS F1 & F2
	8	6.0 KW	40/3	4#8	GEN. CONTROL PANEL
	9	2.0 KW	30/1	#10	BUBBLER SYSTEM
			20/1		SPARES
FEEDER:	4#6			#10 GND	

EXHAUST FAN SCHEDULE

EF1	DESCRIPTION
EF1	ROOF TOP VENTILATOR - 663 CFM @ 0" S.P. 115 V, 1/2 HP MOTOR. BELT DRIVE. FAN SPEED 700 R.P.M. AUTO DAMPER & BIRDSCREEN LOREN COOL 12UC01B THERMOSTAT 02 MANUAL.
EF2	WALL VENTILATOR - 1458 CFM @ 0" S.P. 115 V, 1/2 HP DIRECT DRIVE MOTOR @ 1140 R.P.M. AUTO DAMPER & BIRDSCREEN LOREN COOL 14C11W.

FOR REFERENCE ONLY

BRUNING 44-132-22519-4

NO.	DATE	DESCRIPTION	BY	CKD



Nichols Engineering Service, Inc.
CONSULTING ENGINEERS - SINCE 1951
UNION CITY, TENNESSEE 38261

DYERSBURG, TENNESSEE
CONTRACT "B"
WASTEWATER TREATMENT PLANT

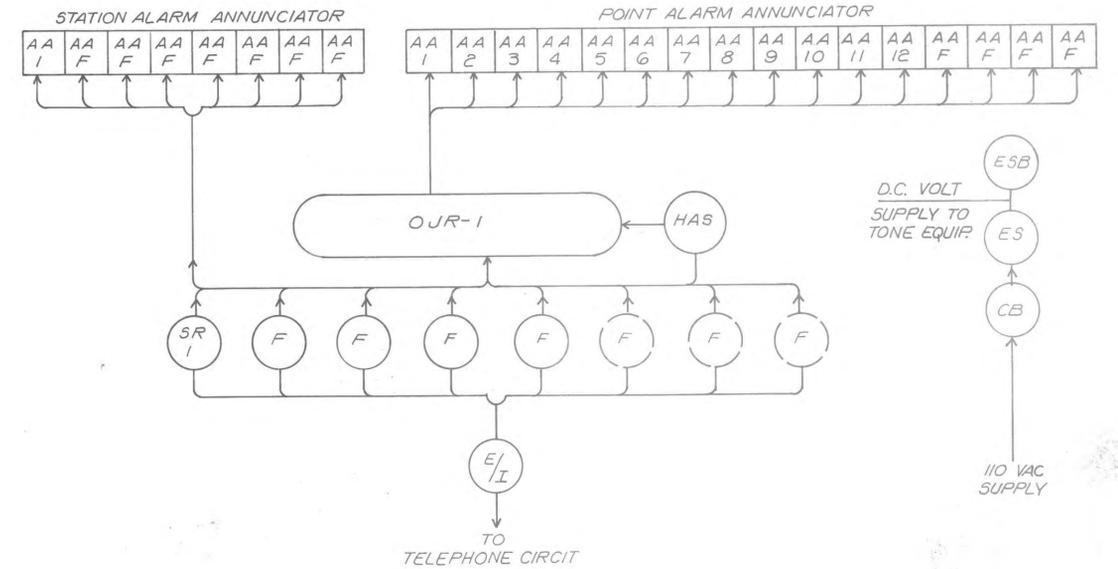
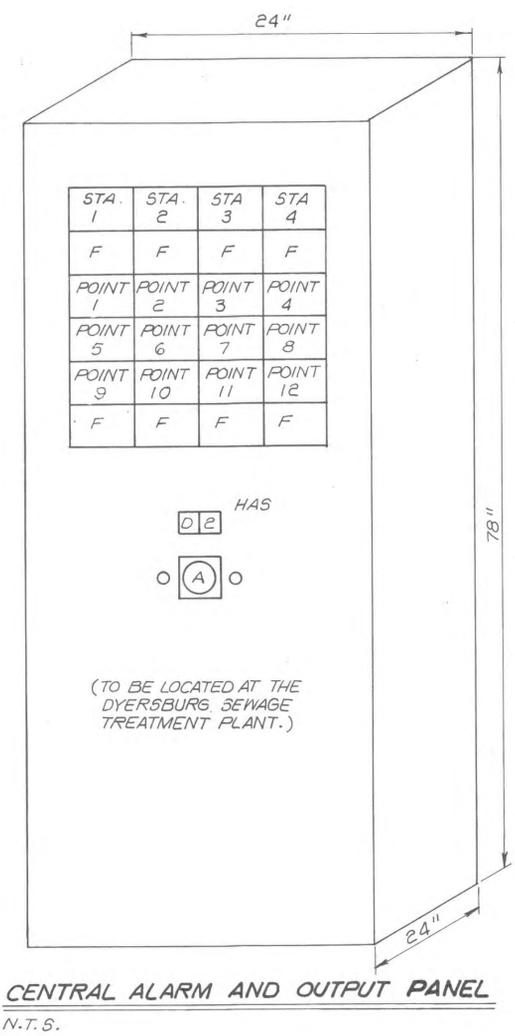
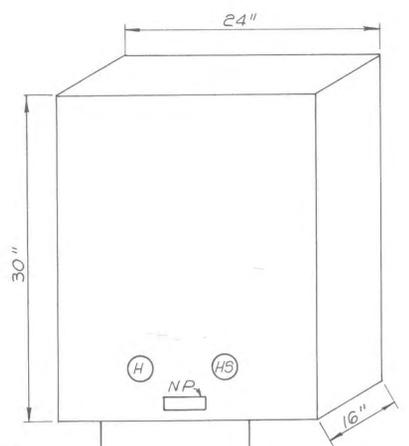
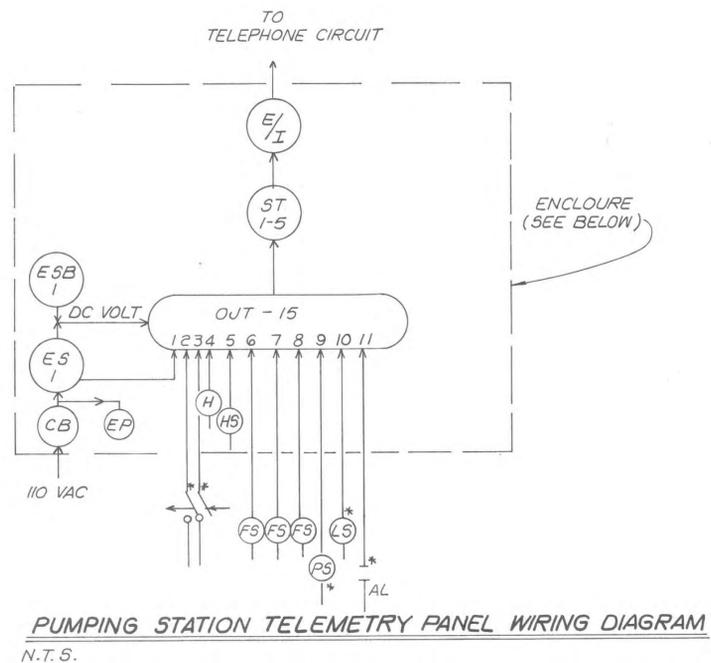
MAIN LIFT STATION - ELECTRICAL
PLANS & SCHEDULES

REVISED OCT 1981

DESIGNED BY	CHECKED BY	SCALE	SHEET
J.E.S.		AS NOTED	
DRAWN BY	DATE	FILE NO.	NO.
	MAY 1981	503-781-01-3	OF 14

RECORD DRAWINGS
I.C. THOMASSON & ASSOCIATES INC.
CONSULTING ENGINEERS
NASHVILLE - KNOXVILLE
TENNESSEE
PROJECT NUMBER 80-520-90



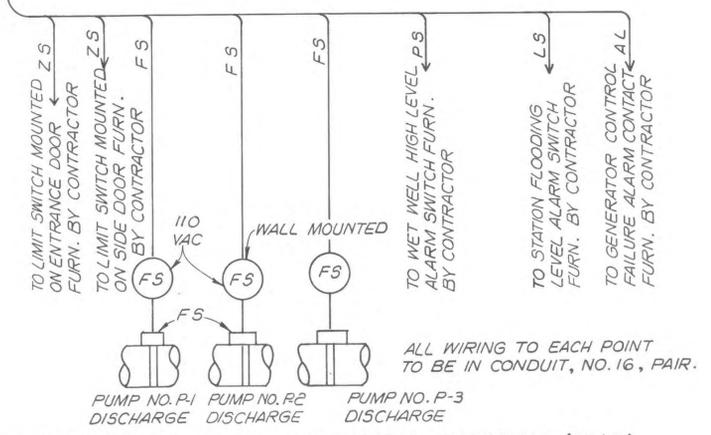


- SYMBOLS**
- A - AUDIBLE ALARM
 - AA - ALARM ANNUNCIATOR
 - AL - ALARM CONTACT
 - CB - 20A, H5VAC CIRCUIT BREAKER
 - E/I - LIGHTNING AND SURGE SUPPRESSOR
 - EP - DUPLEX A.C. OUTLET
 - ES - TONE POWER SUPPLY
 - ESB - STANDBY POWER
 - F - FUTURE
 - FS - FLOW SWITCH
 - H - HAND (KEY) SWITCH
 - HAS - STATION ALARM SWITCH
 - HS - EMERGENCY PUSHBUTTON
 - LS - LEVEL SWITCH
 - OJR - SCANNER RECIEVER
 - JT - SCANNER TRANSMITTER
 - PS - PRESSURE/LEVEL SWITCH
 - SR - TONE RECIEVER
 - ST - TONE TRANSMITTER
 - ZS - ENTRANCE LIMIT SWITCH

- INPUTS AT EACH PUMP STATION**
1. A.C. POWER FAILURE
 2. STATION ENTRY-MAIN
 3. STATION ENTRY-SECOND
 4. AUTHORIZED STATION ENTRY
 5. MAN ASSIST REQUIRED
 6. PUMP NO. 1 FAILURE
 7. PUMP NO. 2 FAILURE
 8. PUMP NO. 3 FAILURE
 9. HIGH WET WELL LEVEL
 10. STATION FLOODING
 11. GENERATOR FAILURE

LIST OF PUMPING STATIONS

STA. NO.	NAME
1.	MAIN PUMP STATION
2.	FUTURE
3.	FUTURE
4.	FUTURE
5.	FUTURE
6.	FUTURE



FOR REFERENCE ONLY

BRUNING 44-132 22519-4

NO.	DATE	DESCRIPTION	BY	CHK.



Nichols Engineering Service, Inc.
CONSULTING ENGINEERS - SINCE 1951
UNION CITY, TENNESSEE 38261

DYERSBURG, TENNESSEE
CONTRACT "B"
WASTEWATER TREATMENT PLANT

TELEMETRY SYSTEM

DESIGNED BY	CHECKED BY	SCALE	SHEET
P. J. W.		N.T.S.	
DRAWN BY <td>DATE <td>FILE NO. <td>NO.</td> </td></td>	DATE <td>FILE NO. <td>NO.</td> </td>	FILE NO. <td>NO.</td>	NO.
M. L. H.	MAY 1981	503-763-01-2	14

OF 14 SHEETS