

CITY OF TOPEKA KANSAS

CLEANING, REPAIRING, & PAINTING



500,000-GALLON ELEVATED RESERVOIR MONTARA SOUTH WATER TOWER

CITY PROJECT NO.: 281215.01
ISG PROJECT NO.: 26-33902
KLM PROJECT NO.: 5461-25
FEBRUARY 2026

PROJECT TITLE PAGE

Project:

Name: Cleaning, Repairing, & Painting
500,000-Gallon Elevated Reservoir
Montara South Water Tower
Location: 6900 SW Crestwood Drive, Topeka, KS 66619
City Project No.: 281215.01
ISG Project No.: 26-33902
KLM Project No.: 5461-25

Owner:

Name: City of Topeka
Address: 215 SE 7th Street
Topeka, KS 66603
Telephone: (785) 368-3940

Primary Owner Contact:

Name: Joseph Filby, Water Treatment Plant Manager
Telephone: (785) 368-2423
Email: jfilby@topeka.org

Project Engineer:

Name: Lenny Larson, PE
I&S Group, Inc. (ISG)
Address: 217 East 2nd Street, Suite 110
Des Moines, IA 50309
Phone: (515) 243-9143
Email: lenny.larson@isginc.com

Consultant and Inspector:

Name: KLM Engineering, Inc.
Address: 1976 Wooddale Drive, Suite 4
Woodbury, MN 55125
Telephone: (651) 773-5111
Fax: (651) 773-5222

Project Supervisor:

Name: Scott Kriese
Mobile: (651) 755-8664
Email: skriese@klmengineering.com

Project Manager:

Name: Ben Feldman
Phone: (651) 773-5111
Email: bfeldman@klmengineering.com

**CLEANING, REPAIRING, & PAINTING
500,000-GALLON ELEVATED RESERVOIR
MONTARA SOUTH WATER TOWER**

**TOPEKA, KANSAS
CITY PROJECT NO.: 281215.01
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CERTIFICATION PAGE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Kansas.



Leonard A. Larson, PE



Registration No. PE29253

Dated: 3/9/2026

PROJECT MANUAL

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DOCUMENT 020
INVITATION TO BID

1. **CITY OF TOPEKA PROJECT:** Clean, Repair, Paint Montara South Water Tower 281215.01, 281307.01, 281308.01, 281337.01.
2. **BIDS RECEIVED UNTIL:** 2:00 P.M., Local Time, May 22, 2026, electronically using the Topeka Vendor Access website: <https://cityoftopakaks.tylerportico.com/va/vendor-access/bids> or by delivering physical hard copies prior to Closing at the office of the Contracts & Procurement Division, City Hall, 215 SE 7th Street, Room B60, Topeka, Kansas 66603.
3. **BID CLOSING:** Will be public following the receipt of bids at the office of the Contracts & Procurement Division, City Hall, 215 SE 7th Street, Room B60, Topeka, Kansas 66603.
4. **DESCRIPTION OF MAJOR UNITS OF WORK:**
 - Cleaning, sandblasting, and painting all interior and exterior surfaces. Full containment is mandatory.
 - Miscellaneous structure modifications.
 - Welding and grinding to remove erection bracket scab marks, weld spatter, poor welds, and other surface irregularities.
5. **DESIGN ENGINEER:** Lenny Larson, ISG, 217 East 2nd St, Suite 110, Des Moines, IA 50309
6. **BID DOCUMENTS:** Electronic copies (PDF's) of the bid documents (plans and specifications) and any addenda are available using the Topeka Vendor Access website. Register online at <https://cityoftopakaks.tylerportico.com/va/vendor-access/registration> .
7. **BID SECURITY REQUIREMENTS:** All bids must be accompanied by a cashier's check or a bid bond for not less than five percent (5%) of the amount bid (including alternates), made payable to the City of Topeka, Kansas. The original bid security shall be provided to the office of Contracts and Procurement before the 2:00 closing date.
8. **PRE-BID CONFERENCE:** A pre-bid conference will be held at Tuttle Creek Room A, Water Treatment Plant on 5/12/2026 at 10:00AM. Representatives of the Design Engineer and Owner will be present to answer questions. Attendance is optional (mandatory or optional). If indicated as optional, attendance is highly encouraged for bidders to attend in order to understand the expectations and details involved in the project and contract.
9. **SUBMITTALS:** Bid submittal requirements are explained in Document 100: Instructions to Bidders.
10. **BID QUESTIONS:** All questions **must** be submitted using the **Bid Question Submittal Form (Excel)** included in the Bid Attachments. Bidders shall **download the form**, enter their questions directly into the **Q# fields** (handwritten submissions will not be accepted), and **email the completed Excel file** to procurement@topeka.org no later than **ten (10) days prior** to the bid closing date and time, unless otherwise stated in the bid documents.

The email subject line shall read: **Bid Number ##### – Questions.**

If more than forty (40) questions are required, bidders may insert additional rows as needed. The form must be submitted as an **MS Excel (.xls or .xlsx)** file.

Responses to questions will be issued by addendum and posted in the Bid Attachments as a **PDF** titled:

Bid Number ##### – Answers to Bid Question Submittal Form.

11. **Plan Holder List:** Contractors seeking to be included on the Plan Holders List **must** complete the **Plan Holders Information Form (Excel Worksheet)** included in the Bid Attachments. Contractors **shall download the form**, enter their **business name, contact name, phone number, and email address**, and **email the completed Excel file** to procurement@topeka.org no later than **ten (10) days** prior to the bid closing date, unless otherwise stated in the bid documents.

The email subject line shall read: **Bid Number ##### – Plan Holders Request.**

A **complete Plan Holders List** will be published in the Bid Attachments as a PDF titled:

Bid Number ##### – Plan Holders List.

DOCUMENT 100
INSTRUCTIONS TO BIDDERS

1. Defined Terms.

Terms used in these Instructions to Bidders shall have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

2. Copies of Bidding Documents.

2.1. Complete sets of the Bidding Documents in the number and for the purchase sum, if any, stated in the Invitation may be obtained from the office designated in the Invitation to Bid.

2.2. Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Design Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3. Owner and Design Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. Qualifications of Bidders.

To demonstrate qualifications to perform the Work, the apparent low Bidder must be prepared to submit within five days of Owner's request written evidence of the types set forth in the General or Supplementary Conditions, such as financial data, previous experience and evidence of authority to conduct business in the jurisdiction where the Project is located. Any information furnished pursuant to this section shall be deemed confidential and will not be disclosed by the Owner. Each Bid must contain evidence of Bidder's qualification to do business in the State of Kansas or covenant to obtain such qualification prior to award of the contract.

4. Examination of Contract Documents and Site.

4.1. Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.

4.2. Reference is made to the Supplementary Conditions for the identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by Engineer in preparing the Drawings and Specifications. Owner will make copies of such reports available to any Bidder requesting them. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents. Before submitting his Bid each Bidder will, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

43. On request Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid.

44. The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Supplementary Conditions, Specifications or Drawings.

45. The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms, and conditions for performance of the Work.

5. Interpretations.

All questions about the meaning or intent of the Contract Documents shall be submitted only through the City of Topeka's e-Procurement System at least 10 calendar days prior to the opening of Bids. All questions and answers will be posted to the Bid Event. Questions and answers that result in a material change to the scope of work or quantities will require issuance of an addendum. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. Bid Security.

6.1. Bid Security shall be made payable to Owner, in an amount of five percent of the Bidder's maximum Bid price (including alternates) and in the form of a certified or cashier's check or a Bid Bond issued by a Surety meeting the requirement of paragraph 5.1 of the General Conditions. All forms of Bid Security must be delivered in original form. Facsimile transmission of Bid Security documents will not be accepted.

6.2. The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within 10 days of the award of contract, Owner may annul the award and the Bid Security of that bidder will be forfeited to the Owner.

The Bid Security of any Bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the seventh day after the "Effective date of the Agreement" (which term is defined in the General Conditions) or the forty-sixth day after the Bid opening, whichever is earliest. Bid Security of other Bidders will be returned within seven days of the Bid opening.

7. Contract Time.

The number of days within which or the date by which the Work is to be completed (the Contract Time) is set forth in the Agreement.

8. Liquidated Damages.

Provisions for liquidated damages are set forth in the Agreement.

9. Substitute Material and Equipment.

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or equal" items.

Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the "Effective date of the Agreement". The procedure for submittal of any such application by Contractor and consideration by Engineer is set forth in paragraphs 6.7.1, 6.7.2 and 6.7.3 of the General Conditions which may be supplemented in the Specifications.

10. Subcontractors, etc.

10.1. The total amount of the work performed by all Subcontractors cannot exceed seventy percent (70%) of the Total Bid as reflected in Document 330.

10.2. Bidder must submit to Owner, as part of their Bid Form, a complete list of all Subcontractors and other persons and organizations (including those who will be furnishing the principal items of material and equipment) proposed to be used by the bidder to complete this project. Failure by the Bidder to provide this list with the cost amount for each Subcontractor shall render the bid nonresponsive. If the total amount of the work performed by all Subcontractors exceeds seventy (70%) of the Total Bid, the bid will be rejected. If requested by the Owner, the Successful Bidder shall submit to the owner, in writing, an experience statement with pertinent information as to similar projects and other evidence of qualifications for each such Subcontractor, person and organization listed on the Bid Form. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, other person or organization, either Owner or Engineer may before giving the award of contract, request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid Price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to whom Owner or Engineer does not make written objection prior to the giving the award of contract, will be deemed acceptable to Owner and Engineer. Substitutions to this list of acceptable Subcontractors and other persons and organizations after the apparent Successful Bidder has been awarded a contract by the Owner will not be allowed without the written approval of the Owner or Engineer.

10.3. No Contractor shall be required to employ any Subcontractor, other person or organization against whom he has reasonable objection.

10.4. No Subcontractor who is on the Owner's "List of Suspended Contractors" as of the date of the opening of Bids may be employed by the Contractor on the project. A current list of suspended contractors may be obtained from the Contracts and Procurement Division.

11. Bid Form.

11.1. The Bid Form is included in this Project Manual. The Project Manual will be posted to the electronic Bid Event.

11.2. Bid Forms must be completed in the electronic Bid Event.

11.3. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address shall be shown below the signature. Signature pages shall be submitted electronically as instructed in the Bid Event.

11.4. Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature. Signature pages shall be submitted electronically as instructed in the Bid Event.

11.5. All names must be typed or printed below the signature, unless instructed in the electronic Bid Event.

11.6. The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form). Signed Addenda forms shall be uploaded to the Bid Event by the bidder.

11.7. The address to which communications regarding the Bid are to be directed must be shown, if different than that required above.

12. Submission of Bids.

12.1. Bids shall be submitted only through the City of Topeka's e-Procurement System.

12.2. Bids shall be submitted at or before the stated time of closing. Bids received after the closing time indicated in the Invitation to Bid will be rejected.

The City attempts to maintain continuous access to the supplier portal. However, from time to time, Bidder understands that access may be interrupted or prevented due to maintenance, site problems, Internet problems, or problems experienced by the user due to Bidder's computer system. Bidder acknowledges that City makes no warranties that the supplier portal will be uninterrupted or error-free. Regardless of the source of any problem, Bidder acknowledges that it is Bidder's sole responsibility to ensure that its bid is timely received. Because of the discrepancies inherent in timing mechanisms (e.g. cell phone, computers, mobile devices), Bidder acknowledges that the bid time will be determined based upon the time indicated on the City server for the Strategic Sourcing application. If Bidder does not submit its bid at or before the time indicated on the City server for the strategic source application, the bid will be electronically rejected by the Strategic Sourcing application as untimely.

Bidder acknowledges that the City shall not be liable for any direct, indirect, incidental, special, consequential or exemplary damages, including but not limited to, damages for loss of profits, goodwill, use, data or other intangible losses resulting from: (i) the use or the inability to use the supplier portal; (ii) unauthorized access to or alteration of the user's transmissions or data; or (iii) any other matter relating to the supplier portal.

12.3. Bids will not be accepted from any Contractor who is on the Owner's "List of Suspended Contractors" as of the date of the Opening of Bids. Bids received from suspended Contractors will automatically be rejected and returned unopened.

12.4. Bids that do not conform to the Affirmative Action and Notification of MBE and WBE requirements shall be deemed non-responsive and will not be accepted in accordance with paragraphs 23 and 24 of this Instructions To Bidders.

13. Modification and Withdrawal of Bids.

13.1. Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

13.2. If, within twenty-four hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of his Bid, Owner may, at its sole discretion, allow that bidder to withdraw his Bid and the Bid Security will be returned.

14. Opening of Bids.

Bids will be opened publicly and read aloud.

15. Bids to Remain Open.

All Bids shall remain open for sixty (60) days after the day of the bid opening, but Owner may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

16. Award of Contract.

16.1. Owner reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder within the limitations of the Code of the City of Topeka. Owner reserves the right to reject all nonconforming, nonresponsive or conditional Bids. Discrepancies in the indicated multiplication of unit prices and quantities shall be resolved in favor of the correct multiplication based on the unit prices indicated. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

16.2. In evaluating Bids, Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements and alternates and unit prices if requested in the Bid forms. It is Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form but Owner may accept them in any order or combination.

16.3. Owner may consider the qualifications, experience and financial ability of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of Subcontractors and other persons and organizations must be submitted as provided in the General Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by Owner.

16.4. Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.

16.5. If the contract is to be awarded it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Owner.

16.6. If the contract is to be awarded, Owner will notify the Successful Bidder within thirty days after the day of the Bid opening.

17. Performance and Other Bonds.

Paragraph 5.1 of the General Conditions sets forth Owner's requirements as to performance and other Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required Contract Security.

18. Signing of Agreement.

When Owner notifies the Successful Bidder of the award of contract, it will be accompanied by at least three unsigned counterparts of the Agreement and all other Contract Documents. Within ten days thereafter Contractor shall sign and deliver all counterparts of the Agreement to Owner with all other Contract Documents attached. The Contractor shall also submit certificates of insurance in accordance with paragraph 2.1 of the General Conditions and an estimated construction schedule in accordance with paragraph 2.6 of the General Conditions with the executed Agreement. Within ten days thereafter Owner will deliver all fully signed counterparts to Contractor.

19. Sales Taxes.

19.1. For all projects, payment of Kansas State Sales Tax or Compensating (Use) tax is not necessary and should not be included in unit prices bid for materials to be incorporated in the work. The City of Topeka will furnish an exemption certificate (including exemption certificate number) obtained from the Sales and Compensating Tax Division of the Department of Revenue of the State of Kansas to the Contractor, Subcontractor or repairmen making purchases of any tangible personal property to be incorporated in this project. The Contractor, Subcontractor or repairmen must furnish all suppliers with a copy of the properly executed exemption certificate secured for this project. He may reproduce as many copies of the certificate as he may need.

20. State Registration of Out-of-State Contractors.

Bidders are advised that K.S.A. 79-1008, 79-1009 requires the registration of out-of-state contractors with the Director of Revenue for collection of tax.

21. Non-Resident Bidders.

Attention is directed to Section 16-113 and 16-114 of the Kansas Statutes Annotated which requires that any Non-Resident Contractor who undertakes the construction of any public improvement to be paid for out of public funds, must appoint in writing and file with the Kansas Secretary of State, some person (resident in Shawnee County, Kansas) on whom service may be had in any civil action which may arise out of such contractual relation.

22. Equal Employment Opportunity.

It is the policy of the City of Topeka, Kansas to require that all contracts of the City and its agencies include specific provisions to ensure equal employment opportunity ~~and that all Contractors provide evidence of the adoption of an affirmative action program.~~ To comply with these requirements, all persons wishing to enter into a contract with the City shall abide by the following conditions:

22.1. Comply with K.S. A. 44-1030 requiring that:

- a. The Contractor shall observe the provisions of the Kansas act against discrimination and shall not discriminate against any person in the performance of work under the present contract because of race, religion, color, sex, physical handicap unrelated to such person's ability to engage in the particular work, national origin or ancestry;
- b. In all solicitations or advertisements for employees, the Contractor shall include the phrase, "equal opportunity employer," or a similar phrase to be approved by the commission;

- c. If the Contractor fails to comply with the manner in which the Contractor reports to the commission in accordance with the provisions of K.S.A. 44-1031, the Contractor shall be deemed to have breached the present contract and it may be cancelled, terminated or suspended, in whole or in part, by the Owner;
- d. If the Contractor is found guilty of a violation of the Kansas act against discrimination under a decision or order of the commission which has become final, the Contractor shall be deemed to have breached the present contract and it may be cancelled, terminated or suspended, in whole or in part, by the Owner; and
- e. The Contractor shall include the provisions of paragraphs (a) through (d) inclusively of this subsection 22.1. in every sub-contract or purchase order so that such provisions will be binding upon such Subcontractor or vendor.

22.2. Guarantee that during the performance of any City contract or agreement the Contractor, Subcontractor, vendor, or supplier of the City shall comply with all provisions of the Civil Rights Act of 1964, The Equal Employment Opportunity Act of 1972, ~~Executive Order 11246~~, Age Discrimination in Employment Act of 1967, ~~Part 20 Title 41 of the Code of Federal Regulations~~, Rehabilitation Act of 1973, ~~City Ordinance No. 14218~~ and/or any laws, regulations or amendments as may be promulgated thereunder.

23. Affirmative Action Program.

Redacted

All persons seeking to enter into a contract with the City of Topeka shall submit in writing to the Contracts and Procurement Division-Contract Compliance an affirmative action program. Such program shall be approved and on file with the Contracts and Procurement Division-Contract Compliance prior to the bid opening. Failure to maintain an approved affirmative action program on file prior to the bid opening shall deem the bid non-responsive and it will not be accepted.

An Affirmative Action program means a positive program designed to ensure that a good faith effort will be made to employ applicants and to treat employees equally without regard to their race, sex, religion, color, national origin, age, ancestry or handicap. An affirmative action program shall include, where applicable, but not be limited to, the following: recruitment, recruitment advertising, employment, upgrading, promotion, demotion, transfer, lay-off, termination, rates of pay, other terms or conditions of employment, selection for training, and apprenticeship. It shall include goals, methodology and a timetable for implementation of the program, when appropriate. Goals for participation on City projects shall be 7% minority and 6.9% female. All Subcontractors performing work to fulfill all or any part of a General Contractor's obligation are subject to these affirmative action provisions. General Contractors shall be responsible for ensuring compliance by their Subcontractors.

Redacted

Any person who so desires may file an affirmative action program annually which shall apply to all bids which such person shall make during the calendar year next succeeding the date of such filing. However, annual submission of the affirmative action program shall not excuse any person from submission of a work force analysis or other requirements for utilization of minority and/or female employees in a work force either concurrently with or prior to any contract bid or proposal. Any annual submission shall be subject to review by the Contracts and Procurement Division-Contract Compliance and shall be amended at such time and in such manner as the Contracts and Procurement Division-Contract Compliance may require.

Redacted

24. Notification of Minority Business Enterprises (MBE) and Women Business Enterprises (WBE). It is the policy of the City of Topeka that minority and women business enterprises shall have the opportunity to participate in the performance of contracts and subcontracts. The Contractor shall take the necessary steps, as herein established, to ensure that MBE's and WBE's have the opportunity to compete for and perform subcontract work. In this regard, the Contractor shall demonstrate a good faith effort by any one of the following methods:

- a. Complete and submit the Notification of Available Subcontract Work form, Document No. 840, ten (10) days prior to the bid opening.

If a portion of the work on this project is to be subcontracted, the bidder shall submit the Notification of Available Subcontract Work form so as to be received by the Contracts and Procurement Division-Contract Compliance, City Hall, 215 E. 7th Street, Topeka, Kansas 66603, ten (10) days prior to the bid opening date. A bidder shall certify the timely delivery of the form either by hand delivery or by fax signed by an authorized employee of the Contracts and Procurement Division-Contract Compliance. Once the Notification of Available Subcontract Work forms are received by the Contracts and Procurement Division-Contract Compliance, they will be mailed to interested minority and women owned businesses as notification of subcontracting opportunities.

- b. Demonstrate a good faith effort to offer minority and women business enterprises an opportunity to compete for subcontracts.

A bidder may satisfy the requirements of this section by presenting documentation that demonstrates good faith efforts to notify MBE's and WBE's of available subcontracting opportunities on the project being bid. Such documentation may include, but not be limited to the following: advertisement in general circulation, trade associations, or minority focus media of subcontracting opportunities, written notice to MBE's and WBE's soliciting their participation in the contract, and evidence of efforts to negotiate with MBE's or WBE's to perform work under this contract.

- c. Demonstrate participation by minority and/or women business enterprises as subcontractors on the project.

A bidder may satisfy the requirements of this section by submitting documentation of MBE and/or WBE participation as subcontractors on the project comparable to the known availability of qualified MBE's and WBE's.

For purposes of assessing this section, the successful contractor shall be required, upon request, to submit names and addresses of minority owned and women owned businesses that are subcontractors, a description of the work to be performed, and an aggregate dollar amount of participation by each named MBE and WBE subcontractor.

25. Wage Rates.

The Wage Rate Determination included in this Project Manual, Document No. 850, will be applicable to the project *only if state or federal law requires payment of wages higher than the minimum wage. If Document No. 850 Wage Rate Determination is not included in the Project Manual, then Davis Bacon wages shall not be required for the project.* These wages must be paid unconditionally to each class of worker for the duration of the project, unless they are changed by Addendum. The Wage Rate Determination shall be accounted for when preparing the bid. If your company pays fringe benefits to approved plans, funds or programs, it is necessary that verification of payment of these benefits be made to the Contracts and Procurement Division-Contract Compliance with the first payroll. Any

company not affiliated with an approved plan, fund or program must pay both the base pay and all fringe benefits to each employee in cash. Any worker who works more than 40 hours a week must be paid 1 ½ times the base pay plus all fringe benefits.

Certified payrolls must be submitted on a weekly basis by the prime contractor and all his subcontractors to the Contracts and Procurement Division-Contract Compliance. Failure to do so will result in any payment being withheld until the prime contractor and all his subcontractors are in compliance with this section. A report must be submitted for every week until the job is complete even if no work is performed, fill out a payroll report, sign it and write across it "No Work Performed This Week".

Final payment on this project will not be released until all information has been correctly submitted to the Contracts and Procurement Division-Contract Compliance. The Contractor shall be responsible for the submittal of all Subcontractors' wage determination information.

26. Standard Technical Specifications.

This project shall be subject to the applicable sections of the "Standard Technical Specifications" of the City of Topeka, Kansas, latest edition with any addenda thereto, except as modified or supplemented by specifications contained in this Project Manual.

DOCUMENT 101
MODIFICATIONS TO INSTRUCTIONS TO BIDDERS

These modifications to the Instruction to Bidders amend or supplement the Instruction to Bidders, Document 100, of this Project Manual, as listed below. All provisions which are not so amended or supplemented shall remain in full force and effect.

**DOCUMENT 530A
DATE CERTAIN
AGREEMENT**

THIS AGREEMENT is dated as of _____, by and between the City of Topeka (hereinafter called Owner) and _____ (hereinafter called Contractor).

Owner and Contractor in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. Work.

Contractor shall complete all Work as specified or indicated in the Contract Documents. The Project for which the Work under the Contract Documents is to be performed is:

Article 2. Engineer.

The project has been designed by _____
The _____ Specify Design Engineer or City Engineer) is hereinafter designated as the Engineer and is to act as Owner's representative, assume all duties and responsibilities and have the rights and authority assigned to Engineer in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3. Contract Time.

3.1. The actual Contract Time will commence on and be completed by the dates set forth on the Start Work Order, signed by Contractor and City of Topeka Project Manager. Any issuance by Owner of Stop Work Order, or Resume Work Order, or Revised Start Work Order will control Contract Time as defined herein.

3.2 The Contract Time is estimated to commence with an issuance of a Work Order by the Owner on or about _____ (month day, year), provided the Contractor complies with the required submittal times for the executed Agreement and its counterparts, and be substantially completed on or before _____ (month day, year), and completed and ready for final completion and payment in accordance with paragraph 14.13 of the General Conditions on or before _____ (month day, year). Said dates are subject to revision and will be controlled by the issuance by Owner of Stop Work Order, or Resume Work Order, or Revised Start Work Order.

3.3. Incentive-Disincentive Provision. The project will result in significant adverse impact to the traveling public in the form of increased time and cost to negotiate detours around the project location. Therefore, an incentive-disincentive provision shall be applicable to the Contract Time stipulated for substantial completion in paragraph 3.1. Substantial Completion, for the purposes of this incentive-disincentive provision is specifically defined in the Supplementary Conditions.

3.3.1. The Contractor will receive an incentive payment of \$_____ per day for each day or part thereof that the project is substantially complete prior to 12:00 mid-night on the date stipulated for substantial completion in paragraph 3.1. The incentive payments will be made up to a maximum limit of \$_____ for a maximum of _____ days prior to the date of substantial completion.

3.3.2. The Contractor will be assessed as a disincentive the per day amount stipulated in paragraph 3.3.1 above for each day or part thereof that the project is not substantially complete by 12:00 mid-night on the date stipulated for substantial completion in paragraph 3.2. The disincentive assessment will continue until the Engineer notifies the Owner of substantial completion in accordance with the provisions of paragraph 14.8 of the General Conditions. The Owner may deduct the total accrued disincentive assessment from the final payment due to the Contractor if sufficient monies are available. Otherwise, the Contractor shall pay to the Owner the total accrued disincentive assessment.

3.4. Extensions of Time. This paragraph replaces paragraph 12.2 of the General Conditions.

3.4.1. No extension of Contract Time beyond the date stipulated for substantial completion in paragraph 3.1 shall be considered for reasons including, but not limited to, variations between actual and bid quantities, availability of materials and equipment, abnormal weather conditions, addition of extra work contiguous with the project and normal coordination with the work of others.

3.4.2. If the Contractor believes that any item of Work or event has unreasonably delayed or prevented Contractor's progress and ability to substantially complete the Work within the stipulated time, Contractor may make a claim therefor in accordance with paragraph 12.1 of the General Conditions.

3.5. Liquidated Damages. Owner and Contractor recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not complete and ready for final payment by the date specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner according to the following schedule:

Contract Amount	Substantial Completion Liquidated Damages	Final Completion Liquidated Damages
\$0 to \$25,000	\$150	\$150
\$25,001 to \$50,000	\$250	\$250
\$50,001 to \$100,000	\$400	\$400
\$100,001 to \$500,000	\$750	\$750
\$500,001 to \$1,000,000	\$1,250	\$750
\$1,000,001 to \$1,500,000	\$2,000	\$1,250
\$1,500,001 to \$2,000,000	\$2,500	\$1,500
\$2,000,001 to \$5,000,000	\$3,000	\$2,000
\$5,000,001 to \$10,000,000	\$5,000	\$3,000
\$10,000,001 and up	\$7,000	\$4,000

For each day that expires after the time specified in paragraph 3.2 for Substantial and Final Completion. The Owner may deduct the total accrued liquidated damages from the final payment due to the Contractor.

Article 4. Contract Price.

Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents in current funds as per the Contractor's Bid, which is attached as an exhibit to this Agreement.

Article 5. Payment Procedures.

Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

5.1. Progress Payments. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Engineer within thirty-five (35) days following the end of the period for which payment is being requested, provided the application for payment is submitted within seven (7) days following the end of the period. Periods shall end the 15th of each month. All progress payments will be based on the number of units or estimated percentage of the Work completed in accordance with paragraph 14.1 of the General Conditions.

5.1.1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as Engineer shall determine, or Owner may withhold, in accordance with paragraph 14.7 of the General Conditions.

(1) 90% of Work completed. If the project has been 50% completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer upon written request by the Contractor, Owner, may determine that as long as the character and progress of the Work remain satisfactory to them, that the retainage on account of Work completed be reduced

or eliminated. Reduction or elimination of the retainage will be at the sole discretion of the Owner.

- (2) _____% of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to Owner as provided in paragraph 14.2 of the General Conditions).

5.1.2. Upon Substantial Completion, in an amount sufficient to increase total payments to Contractor to 95% of the Contract Price, less such amounts as Engineer shall determine, or Owner may withhold, in accordance with paragraph 14.7 of the General Conditions.

5.2. Final Payment. Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, including timely submission of an Application for Final Payment, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said paragraph 14.13. Contractor agrees that failure to timely submit a Final Application for Payment pursuant to paragraph 14.13(a) will result in forfeiture of any remaining amounts due.

5.3. Interest. All monies not paid when due hereunder shall not bear interest.

Article 6. Contractor's Representations.

In order to induce Owner to enter into this Agreement, Contractor represents that he fully complies with the requirements stated in paragraphs 3b. through 3g. of the Bid Form, which is attached as an exhibit to this Agreement.

Article 7. Contract Documents.

The Contract Documents which comprise the entire agreement between Owner and Contractor concerning the Work consist of the following:

- 7.1. This Agreement.
- 7.2. Performance and other Bonds contained in this Project Manual.
- 7.3. Work Order.
- 7.4. General Conditions contained in this Project Manual.
- 7.5. Supplementary Conditions contained in this Project Manual, if any.
- 7.6. The City of Topeka Standard Technical Specifications for Sewers, Streets, Sidewalks and Miscellaneous Construction of the City of Topeka, Kansas, current edition, with any addenda thereto.
- 7.7. Specifications contained in this Project Manual, if any.
- 7.8. Project Drawings, bearing the following title: _____

- 7.9. Addenda _____ to _____, inclusive.

7.10. Contractor's Bid, including all attachments to Bid, which is attached as an exhibit to this Agreement.

7.11. Equal Employment Opportunity and Affirmative Action Program requirements stated in the Instructions to Bidders. **Redacted**

7.12. Notification of Minority and Women Business Enterprises requirements stated in the Instructions to Bidders. **Redacted**

7.13. Wage Rate Determination will only be inserted if wage rates are required by state or federal law (where the state or federal funding source) requires the City to enforce wage rates for project.

7.14. The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Change Orders and other documents amending, modifying, or supplementing the Contract Documents pursuant to paragraphs 3.4 and 3.5 of the General Conditions.

There are no Contract Documents other than those listed above in this Article 7. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.4 and 3.5 of the General Conditions.

Article 8. Suspension of Contractor.

8.1. Contractor will be placed on Owner's "List of Suspended Contractors" for a period of time from the date of written notification by Owner if Contractor fails to perform in accordance with specific provisions stated in paragraph 8.2 of this Article 8. The period of Suspension shall be established as follows:

- First Suspension - 1 year
- Second Suspension - 2 years
- Third Suspension - Permanent

During the period of suspension, the Contractor will not be permitted to submit a bid to Owner to perform Work either directly or indirectly or as a subcontractor.

8.2. The Contractor shall be suspended upon written notification by Owner:

8.2.1. If Contractor exceeds the Contract Times for substantial completion or final payment as indicated in paragraph 3.1, plus any extensions thereof made in accordance with Article 12 of the General Conditions, by more than ten (10) days or 15%, whichever is greater, or

8.2.2. Upon occurrence of any of the events stated in paragraph 15.2 of the General Conditions.

8.2.3. If Contractor fails to complete any outstanding "One-Year Correction Period" work, as defined in paragraph 13.12 of the General Conditions, on previously completed projects within 90 calendar days of written notification by the Owner, the Contractor will be placed on Owners "List of Suspended Contractors", as defined in

paragraph 8.1, Article 8. Suspension of Contractor, and shall remain suspended until such time as the corrective work has been certified as complete in writing by the Owner.

Article 9. Miscellaneous.

9.1. Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

9.2. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3. Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in triplicate. One counterpart each has been delivered to Owner, Contractor and Design Engineer. All portions of the Contract Documents have been signed or identified by Owner and Contractor or by Design Engineer on their behalf.

CITY OF TOPEKA, KANSAS

CONTRACTOR NAME

Robert M. Perez, Ph.D., City Manager

Authorized Signer

ATTEST:

Brenda Younger, City Clerk

APPROVED AS TO FORM AND LEGALITY	
DATE _____	BY _____

C&P DIRECTOR

DOCUMENT 700

GENERAL CONDITIONS

FOR

CITY OF TOPEKA

DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PROJECTS

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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:

Addenda - Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the Contract Documents.

Agreement - The written agreement 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.

Application for Payment - A form acceptable to the Engineer which is to be used by Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

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

Bonds - Bid, performance and payment bonds and other instruments of security.

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 Time, issued on or after the Effective Date of the Agreement.

City Engineer - The City Engineer of the City of Topeka or authorized representatives of the Engineering Division or the Utilities Department of the City of Topeka.

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 Award of contract) 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 amendments, modifications and supplements issued pursuant to paragraphs 3.4 and 3.5 on or after the Effective Date of the Agreement.

Contract Price - The moneys payable by Owner to Contractor under the Contract Documents as stated in the Agreement.

Contract Time - The number of days or the date stated in the Agreement for the completion of the Work.

Contractor - The person, firm or corporation with whom Owner has entered into the Agreement.

Defective - An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to 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).

Design Engineer - The person, firm or corporation responsible for the design of the project and named as such in the Agreement.

Drawings - The drawings which show the character and scope of the work to be performed and which have been prepared or approved by Engineer and are referred to in the Contract Documents.

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.

Engineer - The Engineer shall be either the Design Engineer or the City Engineer as designated in the Agreement.

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 Time unless subsequently agreed to by Change Order.

Final Acceptance - The date when the Owner accepts in writing that the construction of the project is complete in accordance with the Contract Documents such that the entire project can be utilized for the purposes for which it is intended and Contractor is entitled to final payment.

Final Completion - The date when the construction of the project is complete and all identified incomplete or defective items of work have been corrected to the satisfaction of the Engineer.

Force Account Work - Work authorized and approved by the Owner to be paid on the basis of actual cost in accordance with paragraphs 11.4 through 11.7.

Contracts and Procurement Division-Contract Compliance - The Contracts and Procurement Division-Contract Compliance, and their authorized representatives, acting within the authority delegated to them.

Laws and Regulations; Laws or Regulations - Laws, rules, regulations, ordinances, codes and/or orders.

Owner - The City of Topeka, Kansas with whom Contractor has entered into the Agreement and for whom the Work is to be provided.

Partial Utilization - Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

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.

Project Representative - The authorized representative of Engineer who is assigned to the site or any part thereof.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by Contractor to illustrate material or equipment for some portion of the Work.

Specifications - The City of Topeka Standard Technical specifications or the portion 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.

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.

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 notice 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 there be no such certificate issued, when final payment is due in accordance with paragraph 14.13. The terms "Substantially Complete" and "Substantially Completed" as applied to any Work refer to Substantial Completion thereof.

Supplementary Conditions - The part of the Contract Documents which amends, modifies or supplements these General Conditions, other provisions of the Contract Documents, the Standard Technical Specifications or the Drawings.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman or vendor.

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.

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

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

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 6.22. A Work Change Directive may not change the contract Price or the Contract time, 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 parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.2.

Work Order - A written notice given by Owner to Contractor fixing the date on which the Contract Time will commence to run and on which Contractor shall start to perform Contractor's obligations under the Contract Documents.

ARTICLE 2 - PRELIMINARY MATTERS

Delivery of Bonds, Evidence of Insurance and Licenses:

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. Contractor shall also deliver with the executed Agreements certificates of insurance which Contractor is required to purchase and maintain in accordance with paragraphs 5.3 through 5.7. All Certificates of Insurance shall utilize the ACORD 25-S form, most recent revision date. Further Contractor shall deliver all Licenses required in accordance with paragraph 6.13.

Copies of Documents:

2.2. Owner shall furnish to Contractor up to eight (8) 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. The deposit check for Plans of the successful bidder will be retained.

Commencement of Contract Time:

2.3. The Contract Time will commence to run on the day indicated on the Work Order. A Work Order may be issued at any time within thirty days after the Effective Date of the Agreement. In no event will the Contract time commence to run later than the seventy-fifth day after the day of bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

Starting the Project:

2.4. Contractor shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract time commences to run, unless otherwise authorized in writing.

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 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 or discrepancy in the Contract Documents, unless Contractor had actual knowledge thereof or should reasonably have known thereof.

Schedule Requirements:

2.6.1. The Contractor shall submit, with the executed Agreement and Contract Documents, a schedule of proposed construction operations which is acceptable to the Owner for any project with a substantial completion time greater than 60 days or with a calendar date completion time as defined in paragraph 3.1 of the Agreement; however, on any project for which more than one pay estimate will be submitted, a schedule of proposed construction operations shall be submitted. The schedule shall comply with all provisions of this specification. The schedule shall be a bar graph type schedule which identifies the target starting and completion dates for each bid item of the Work. The schedule shall indicate completion of the various parts of the Work and the total project within the times called out in the Agreement.

The schedule will be used to monitor the performance of the Contractor and shall be monitored and updated monthly or more frequently if deemed necessary by the Engineer during the course of the project. Contractor shall submit the updated and/or revised project schedule with the monthly pay estimate in accordance with paragraph 14.2. Should the Work fall significantly (20%) behind schedule, the Contractor shall submit a revised schedule detailing corrective measures to be taken to complete the project within the time limits specified in the Agreement. Owner may require Contractor to add to his equipment or construction forces, as well as increase the working hours, if operations fall behind schedule at any time during the construction period. Owner may require Contractor to reimburse Owner for all costs, including charges of Engineer and Owner's professional consultants, caused by any increase in Contractor's allowable working hours as defined below. Owner may deduct such costs from any payment due Contractor.

The following requirements shall be taken into consideration in preparing the schedule of construction operations: No Work shall be done between the hours of 8:00 p.m. and 6:00 a.m., nor on Saturdays, Sundays, or legal holidays, without permission of Owner, except such Work as may be necessary for the proper care, maintenance, and protection of the Project, or in the case of an emergency. Such permission may be granted or denied at the complete discretion and convenience of the Owner and, if granted, may be revoked at any time if the Contractor fails to maintain adequate equipment and supervision for the proper prosecution and control of the Work and all operations performed thereunder, or if the Contractor fails to comply with any conditions of the Owner's authorization.

2.6.2. The Contractor shall submit to the Engineer, prior to the date of the Preconstruction Conference, a schedule of Shop Drawing submissions which shall include the items of materials and equipment for which shop drawings are required by the specifications. For each required shop drawing, the date shall be given for intended submission of the drawing to Engineer for review and the date required for its return to avoid delay in any activity beyond the scheduled start date. Sufficient time shall be allowed for initial review, correction and resubmission, and final review of all shop drawings. In no case will a schedule be acceptable which allows less than 15 days for each review by Engineer.

2.6.3. Before any Work at the site is started, Contractor shall deliver to Owner certificates of insurance (and other evidence of insurance requested by Owner) which Contractor is required to purchase and maintain in accordance with paragraphs 5.3 through 5.7.

Preconstruction Conference:

2.7. Within twenty days after the Effective Date of the Agreement, but before Contractor starts the Work at the site, a conference attended by Contractor, Engineer and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work. The Contractor's representative shall be the resident superintendent or an individual fully qualified and knowledgeable of the Contractor's field operations.

Contracts and Procurement Division-Contract Compliance representatives will be present at the preconstruction conference to discuss with the Contractor duties and obligations arising from Equal Employment Opportunity, Affirmative Action, requirements of local labor utilization, payment of the current Wage Determinations, and other matters coming within the purview of the Contracts and Procurement Division-Contract Compliance.

ARTICLE 3 - CONTRACT DOCUMENTS: 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 all applicable laws and ordinances.

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 as being required to produce the intended result will be supplied whether or not specifically called for.

3.3. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard 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). However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of Owner, Contractor or Engineer, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to 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 contrary to the provisions of paragraph 9.15 or 9.16. Clarifications

and interpretations of the Contract Documents shall be issued by Engineer as provided in paragraph 9.4.

3.4. If, during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to Engineer in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from Engineer; however, Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof or should reasonably have known thereof.

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 Change Order (pursuant to paragraph 10.4),

or

3.5.2. A Work Change Directive (pursuant to paragraph 10.1).

As indicated in paragraphs 11.2 and 12.1, Contract Price and Contract Time may only be changed by a Change Order.

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. Neither Contractor nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with Owner shall 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 Design Engineer; and they shall not reuse any of them on extensions of the Project or any other project without written consent of Owner and Design Engineer and specific written verification or adaptation by Design Engineer.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; CONSTRUCTION LAYOUT

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. 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. Temporary easements will be provided to accommodate normal construction methods and the Contractor may be required to protect designated structures or vegetation from damage. The Contractor may provide additional lands required for temporary construction facilities and storage of materials and equipment at his own expense. Evidence, in writing, of permission to occupy or use areas outside the limits of public right-of-way or easements provided by the Owner shall be supplied to the Engineer. If Contractor believes that any delay in Owner's furnishing these lands, rights-of-way or easements entitles Contractor to an extension of the Contract Time, Contractor may make a claim therefor as provided in Article 12.

Physical Conditions:

4.2.1. Explorations and Reports: Reference is made to the Supplementary Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by Design Engineer in preparation of the Contract Documents. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents. Contractor shall have full responsibility with respect to subsurface conditions at the site.

4.2.2. Existing Structures: Reference is made to the Supplementary Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities referred to in paragraph 4.3) which are at or contiguous to the site that have been utilized by the Design Engineer in preparation of the contract Documents. Contractor may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for Contractor's purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, Contractor shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3. Report of Differing Conditions: If Contractor believes that:

4.2.3.1. Any technical data on which Contractor is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2. Any physical condition uncovered or revealed at the site differs materially from that indicated, reflected or referred to in the Contract Documents,

Contractor shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.22), notify Owner and Engineer in writing about the inaccuracy or difference.

4.2.4. Engineer's Review: Engineer will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations 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 Document Change: If Engineer concludes that there is a material error in the Contract Documents or that because of newly discovered conditions 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 the consequences of the inaccuracy or difference.

4.2.6. Possible Price and Time Adjustments: In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference. If Owner and Contractor are unable to agree as to the amount or length thereof, a claim may be made therefor as provided in Articles 11 and 12.

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 Design 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 Design Engineer shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2. Contractor shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the Work with the owners of such Underground Facilities during construction, for the safety and protection thereof as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

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 and which Contractor could not reasonably have been expected to be aware of, Contractor shall promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the Owner of such Underground Facility and give written notice thereof to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. 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 Time, 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 which Contractor could not reasonably have been expected to be aware of. If the parties are unable to agree as to the

amount or length thereof, Contractor may make a claim therefor as provided in Articles 11 and 12.

Reference Points:

4.4.1 Engineer shall provide engineering surveys to establish reference points and benchmarks for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall protect and preserve the established reference points and benchmarks and shall make no changes or relocations without the prior written approval of Engineer. 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.

4.4.2. The Contractor shall protect from physical disturbance all monuments and benchmarks of the City, County, State or Federal Government without the prior written approval of the Owner or until they have been removed, witnessed or otherwise disposed of by the Engineer.

Construction Layout:

4.5. When there is no bid item for contractor provided staking, the City Engineer or the Design Engineer, as designated at the pre-construction conference, will provide construction layout (staking) of all improvements at no cost to the Contractor. The Contractor shall be responsible for scheduling staking and shall provide the Engineer with at least 48 hours notice prior to the time staking is required. The Contractor must satisfy himself as to the meaning of all stakes and marks prior to start of any construction activity based on those stakes. The Engineer assumes no liability for stakes that are misinterpreted by the Contractor or are damaged due to any activity. Once stakes are set and marked, it is the Contractor's responsibility to preserve them from all types of damage, and in the event of his failure to do so, he shall pay the Engineer to reset the stakes.

ARTICLE 5 - BONDS AND INSURANCE

Performance and Other Bonds:

5.1. Contractor shall furnish performance and payment Bonds, each in an amount 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 otherwise provided by Law or Regulation or by the Contract Documents. The performance bond shall acknowledge the one year correction period in accordance with the requirements of Article 13. All Bonds shall be in the forms prescribed by Law or Regulation or by the Contract Documents and be executed by such sureties who 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 Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the 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 five days thereafter substitute another Bond and Surety, both of which must be acceptable to Owner.

Contractor's Liability Insurance:

5.3. Contractor shall purchase and maintain such commercial general liability and other insurance as is appropriate for the Project 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, by any Subcontractor, 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:

5.3.1. Claims under workers' or workmen's compensation, disability benefits and other similar employee benefit acts, as per state and federal statutory requirements.

5.3.2. Employers Liability Insurance covering claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees with a \$500,000.00 each person, limit.

5.3.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

5.3.4. Claims for property damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;

5.3.5. Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.3.6. The commercial general liability insurance required under paragraphs 5.3.3 through 5.3.5 shall have the following specific coverages:

(1) General Liability:

1.	Each Occurrence	\$1,000,000
2.	Personal and Advertising Injury	\$1,000,000
3.	Products and Completed Operations Aggregate	\$1,000,000
4.	General Aggregate	\$2,000,000
5.	Rented Premises	\$ 100,000
6.	Medical Expenses	\$ 5,000

(2) Excess Liability:

Bodily Injury and Property Damage Combined:

\$1,000,000 Each Occurrence
\$1,000,000 Annual Aggregate

The commercial general liability insurance shall include completed operations insurance. Property Damage liability insurance shall be provided with coverages for explosion, collapse and underground hazards, where applicable. The Owner shall be named as an additional insured on the Contractor's general liability policy.

(3) Automobile Liability:

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. Coverages for hired car and employee non-owned auto liability shall also be provided. The coverage limits shall be:

Combined Single Limit for Each Occurrence \$1,000,000

(4) Contractual Liability Insurance:

5.4. The commercial general liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to Contractor's obligations under the Contract Documents.

(5) Property Insurance:

5.5. Contractor shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as required by Laws and Regulations) for all projects which include construction of or modification to above ground structures. This insurance shall include the interests of Owner, Contractor and Subcontractors all of whom shall be listed as insured or additional insured parties, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance, Contractor shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment.

5.6. Contractor shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by Laws and Regulations which will include the interests of Owner, Contractor and Subcontractors all of whom shall be listed as insured or additional insured parties.

Owners Liability Insurance:

5.7. Contractor, at his sole expense, shall purchase Owner's Protective Liability Insurance and provide owner with the original policy. This insurance shall be maintained in full force and effect for the duration of the Contract by Contractor and shall name the Owner as the named Insured. This insurance shall have the following limits:

Each Occurrence	\$1,000,000
General Aggregate	\$1,000,000

This insurance shall protect Owner against any and all claims and liabilities for injury to or death of persons, or damage to property caused in whole or in part by, or alleged to have been caused in whole or in part by, the negligent acts or omissions of Contractor or Subcontractors or any agent, servant, worker or employee of Contractor or Subcontractor arising from the operations or Work for the project.

Notice of Cancellation:

5.8. All of the policies of insurance so required to be purchased and maintained (or the certificates) in accordance with paragraphs 5.3 through 5.7 shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty (30) days prior written notice has been given to Owner. All such insurance shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing or replacing defective Work in accordance with paragraph 13.12. In addition, Contractor shall maintain such completed operations insurance for one year after final payment and furnish Owner with evidence of continuation of such insurance at final payment.

Receipt and Application of Proceeds:

5.9. Any insured loss under the policies of insurance required by paragraphs 5.5 and 5.6 will be adjusted with Owner and made payable to Owner as trustee for the insured, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.12, 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.

5.10. Owner as trustee 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 trustee shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If required in writing by any party in interest, Owner as trustee shall, upon the occurrence of an insured loss, give bond for the proper performance of such duties.

Acceptance of Insurance:

5.11. If Owner has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by Contractor in accordance with paragraphs 5.3 through 5.7 on the basis of its not complying with the Contract Documents, Owner shall notify Contractor in writing thereof within thirty days of the date of delivery of such certificates to Owner in accordance with paragraph 2.1. Contractor shall provide to Owner such additional information in respect of insurance provided by Contractor as Owner may reasonably request. Failure by Owner to give any such notice of objection within the time provided shall constitute acceptance of such insurance purchased by Contractor as complying with the Contract Documents.

Partial Utilization - Property Insurance:

5.12. 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 the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.1. Contractor shall supervise 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 selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. Contractor shall be responsible to see that the finished 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 given 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 perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the site. Except in connection with 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 the allowable working hours as defined in paragraph 2.6.1. Contractor will not permit overtime work or the performance of

Work on Saturday, Sunday or any legal holiday without Engineer's prior consent.

6.4. Unless otherwise specified in the Supplementary Conditions, 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. 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 the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will 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 9.15 or 9.16.

6.5.1. Salvaged Materials. All materials designated for salvage during the progress of the Work and or specified to be reused in new construction, shall remain the property of the Owner. Salvaged materials shall be delivered and neatly piled at any point within the City Limits which is designated by the Owner or Engineer. Transportation and handling shall be at the Contractor's expense. Salvaged materials will be considered to be in the custody of the Contractor, and he will be held responsible for their care and protection and must cover any losses resulting from damage, theft, or misappropriation while they remain on the job site or while en route to the place of storage.

6.5.2. Storage of Materials. All materials delivered to and stored on the project site shall be neatly placed to minimize obstruction and allow for convenient inspection. No materials or equipment shall be stored within five (5) feet of fire hydrants or trees which are to be protected. All fire hydrants shall remain readily accessible to the Fire Department throughout the project unless otherwise approved by the Owner.

Adjusting Progress Schedule:

6.6. Contractor shall submit to Engineer for acceptance as defined in paragraph 2.6.1, any adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any other provisions of the Contract Documents applicable thereto.

Substitutes of "Or-Equal" Items:

6.7.1. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by Engineer if sufficient information is submitted by Contractor to allow Engineer to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by Engineer will include the following. Requests for review of substitute items of material and 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 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 and of equal substance to that specified and be suited to the same use as that specified. 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 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 shall be considered by Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish at Contractor's expense additional data about the proposed substitute.

6.7.2. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to Engineer, if Contractor submits sufficient information to allow Engineer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by Engineer will be similar to that provided in paragraph 6.7.1. as applied by Engineer.

6.7.3. Engineer will be allowed a reasonable time within which to evaluate each proposed substitute. Engineer will be the sole judge of acceptability, and no 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.

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 have the ability to substitute a Subcontractor which is not adequately performing Work provided the Owner and Engineer consent to the substitution. Further, Contractor shall not be entitled to an increase in Contract Time or Contract Price for substitution of a Subcontractor. Contractor shall not employ any Subcontractor who does not possess the licenses necessary to furnish the Work or who is on the Owner's "List of Suspended Contractors" at the date of the Opening of Bids. 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 Owner requests the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and 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 said request, 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 revoked on the basis of reasonable objection after due investigation, in which case Contractor shall submit an acceptable substitute. 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.

6.8.3. The total amount of the work performed by Subcontractors shall not exceed seventy (70) percent of the total Contract Price as determined based on the units of work to be performed by Subcontractors at the actual unit prices contained in the Agreement. The determination of the amount of work to be performed by the Subcontractors shall be made at the time of bid evaluation and award. For the purposes of this paragraph 6.8.3, "work" shall include all services, labor, equipment and materials associated with each specific item of the contract. The purchase of materials by the Contractor for use by Subcontractors in completing the project shall not be credited toward the amount of work performed by the Contractor. If Engineer has reason to believe that any unit price contained in the agreement does not represent a reasonable price for the Work involved with the specific item, Contractor shall furnish full documentation of the unit price(s) determination in accordance with the provisions of paragraphs 11.4, 11.5 and 11.6. If deemed necessary by the Engineer, the unit price shall be adjusted, the purposes of determining subcontractor participation only, based on a determination of costs in accordance with paragraphs 11.4, 11.5 and 11.6. If specific units of Work involve more than one Subcontractor, Contractor shall provide documentation which enables Engineer to determine the portion of the unit price attributable to each Subcontractor. If it is determined during the course of the Work that the aggregate amount of the work being performed by subcontractors exceeds seventy (70) percent of the Contract Price, Contractor shall take appropriate actions to comply with the requirements of this paragraph 6.8.3.

6.9. 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 any contractual relationship between Owner or 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 monies due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

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 will be pursuant to an appropriate agreement between Contractor and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Contractor shall pay each Subcontractor a just share of any insurance moneys received by Contractor on account of losses under policies issued pursuant to paragraphs 5.5 and 5.6.

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. Contractor shall indemnify and hold harmless Owner and Engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorney's fees and court costs) arising out of 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, and shall defend all such claims in connection with any alleged infringement of such rights.

Licenses and Permits:

6.13.1. Contractor shall obtain and keep in effect all licenses necessary for furnishing and performance of the Work. Contractor shall furnish Owner with a copy of all required licenses.

6.13.2. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all other construction permits and licenses specifically including all permits required for work in highways, railroads and regulation of other governmental agencies. 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. Specifically, the Contractor shall observe all applicable provisions of K.S.A. 44-201 and any amendments thereto in effect as of the Effective Date of Agreement.

6.14.2. If Contractor observes that the Specifications or Drawings are at variance with any Laws or Regulations, Contractor shall give Engineer prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in

paragraph 3.4. If Contractor performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to Engineer, Contractor shall bear all costs arising therefrom; however, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

Taxes:

6.15. For all projects, payment of the Kansas State Sales Tax or Compensating Tax is not required. The City of Topeka will furnish an exemption certificate (including exemption certificate number) obtained from the Sales and Compensating Tax Division, of the Department of Revenue of the State of Kansas to the Contractor, Subcontractor or repairman making purchases of any tangible personal property to be incorporated in this project. The Contractor, Subcontractor or repairman must furnish all suppliers with a copy of the properly executed exemption certificate secured for this project. He may reproduce as many copies of the certificate as he may need.

Use of Premises:

6.16. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project 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 land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against Owner or Engineer by any such owner or occupant because of the performance of the work, Contractor shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim at law. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold Owner and Engineer harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court costs) arising directly indirectly or consequentially out of any action, legal or equitable, brought by any such other party against Owner or Engineer to the extent based on a claim arising out of 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, and shall leave the site clean and ready for occupancy by Owner. 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.

Documents On-Site:

6.19. Contractor shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order. These documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference.

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 employees on the Work and other persons and organizations who may be affected thereby;

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 the 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. 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 Design Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor). Contractor's duties and responsibilities for the safety and 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).

6.21. Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to Owner.

Emergencies:

6.22. 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 Engineer or Owner, 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 in response to an emergency, a Work Change Directive or Change Order will be issued to document the consequences of the changes or variations.

Shop Drawings and Samples:

6.23. After checking and verifying all field measurements, Contractor shall submit to Engineer for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.6.2), or for other appropriate action if so indicated in the Supplementary Conditions, five copies (unless otherwise specified) of all Shop Drawings, which will bear a stamp or specific written indication that Contractor has satisfied Contractor's responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as Engineer may require. 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 enable Engineer to review the information as required.

6.24. Contractor shall also submit to Engineer for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

6.25.1. Before submission of each Shop Drawing or sample Contractor shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or 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. At the time of each submission, Contractor shall give Engineer specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

6.26. Engineer will review and approve with reasonable promptness Shop Drawings and samples, but Engineer's review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required 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 6.25.2 and Engineer has given written approval of each such variation by a 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 errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.25.1.

6.28. Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to Engineer's review and approval of the pertinent submission will be 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 Contractor and Owner may otherwise agree in writing.

Indemnification:

6.30. To the fullest extent permitted by Laws and Regulations Contractor shall indemnify and hold harmless Owner and Engineer and their consultants, agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) 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 therefrom and (b) is caused in whole or in part by any negligent act or omission of Contractor, any Subcontractor, 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 it is caused in part by a party indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party.

6.31. In any and all claims against Owner or Engineer or any of their consultants, agents or employees by any employee of Contractor, any Subcontractor, 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 6.30 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 or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.32. The obligations of Contractor under paragraph 6.30 shall not extend to the liability of Engineer, Engineer's consultants, agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, design or specifications.

Coordination with Utilities.

6.33. The Contractor shall notify in writing responsible representatives of public utilities, railroads, or any other facilities or property that will be affected by his operations. Such notice shall be given in a timely manner before beginning work. The Contractor shall thereafter coordinate his work with the work necessary to protect or relocate such utilities, property or facilities, and cooperate to the fullest extent to avoid damage or service interruptions. For obtaining underground utility locations, the Contractor shall utilize the Kansas One-Call service or other appropriate entity

Public Convenience.

6.34. The Contractor shall notify owners of adjacent property and cooperate with them in the protection of their property. Access to driveways, houses and buildings, and temporary approaches and crossings of streets and sidewalks shall be provided, unless otherwise directed by the Engineer, and kept in good condition.

Traffic Control.

6.35. The Contractor shall comply with all pertinent requirements set forth in the drawing "Typical Traffic Control Through Construction Areas", of the Contract Documents, and as directed by the Engineer. The Contractor shall obtain approval of traffic control devices and methods from the City of Topeka Traffic Engineer at least three (3) days prior to beginning work. All barricades, signs, lights and traffic control devices of any nature shall conform with current requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways."

Emergency Project Identification:

6.36. The Contractor, at the discretion of the Engineer, shall erect in a prominent place on the project a legible sign printed in letters and figures not less than three (3) inches high, showing the name of the Contractor, his Topeka address, and the phone numbers of responsible personnel for day or night emergency contact.

Relations Between Contractor and Labor:

6.37. The Contractor and any Subcontractors shall take ~~affirmative~~ action to insure that employees are treated without regard to their race, religion, creed, color, sex, physical handicaps (which is unrelated to the ability to perform a particular job or occupation), national origin, ancestry or age. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruiting or recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor and any Subcontractors shall agree to post, in a conspicuous place available to employees and applicants for employment, notices to be provided by the Contracts and Procurement Division-Contract Compliance setting forth the provisions of this paragraph.

The Contractor or any Subcontractor shall provide all Affirmative Action Information including an Affirmative Action Program, weekly payroll schedules, and other documentation as may be specified in this Project Manual, necessary to implement the construction compliance requirements of the United States Government and ordinances of the City of Topeka, Kansas. It shall be no excuse that the employer has a collective bargaining agreement with any union providing for exclusive referral or approval systems that such Affirmative Action Information was not provided.

The failure of the Contractor or any Subcontractor to comply with non-discrimination requirements of this Specification shall be grounds for cancellation, termination or suspension of the Contract in whole or in part by the Owner and the Contractor or Subcontractor may be declared ineligible for further Contracts with the Owner until satisfactory proof of intent to comply shall be accepted by the Owner.

Wage Rates:

6.38. The wage rate for employees of a Contractor or Subcontractor shall not be less than the minimum wage prescribed by federal or state law unless higher compensation is required by federal or state law.

Sanitary Conveniences:

6.39. The Contractor shall provide all necessary privy accommodations for the use of his employees and shall maintain the same in a clean and sanitary condition. He shall not create or permit any nuisance to the public or to residents in the vicinity of the work.

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, have other work performed by utility owners or let other direct contracts therefor which may contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Supplementary Conditions, written notice thereof will be given to Contractor prior to starting any such other work; and, 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 extent thereof, Contractor may make a claim therefor as provided in Articles 11 and 12. If the Work of others is identified in the Supplementary Conditions or elsewhere in the Contract Documents, coordination with said Work shall be considered a requirement of this project and as such Contractor shall not be entitled to an extension of Contract Time or Price for coordination with the Work of others.

7.2. Contractor shall afford each utility owner and other Contractor who is a party to such a direct contract (or 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 work, and shall properly connect and coordinate the Work with theirs. 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.

7.3. If any part of Contractor's Work depends for proper execution or results upon the work of any such other contractor or utility owner (or Owner), Contractor shall inspect and promptly report to Engineer in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. Contractor's failure so to report will constitute an acceptance of the other work as fit and proper for integration with Contractor's Work except for latent or non-apparent defects and deficiencies in the other work.

Coordination:

7.4. If Owner contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither Owner nor Engineer shall have any authority or responsibility in respect of such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.1. 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 after 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, 4.4 and 4.5. 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 in existing structures which have been utilized by Design Engineer in preparing the Drawings and Specifications.

8.5. Owner is obligated to execute Change Orders as indicated in paragraph 10.4.

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

8.7. 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.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

Owner's Representative:

9.1. Engineer will be Owner's representative during the construction period. The Engineer for these purposes may be either the Design Engineer or the City Engineer as designated in the Agreement. 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 to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not 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 to the Contract Documents.

Project Representation:

9.3. Engineer will furnish a Project Representative to assist Engineer in observing the performance of the Work. The Project Representative may be required by Engineer or Owner to provide full-time observation of the Work. The Project Representative is Engineer's Agent, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding his actions. The Project Representative's dealings in matters pertaining to the on-site Work shall in general be only with Engineer and Contractor, and dealings with subcontractors shall only be through or with the full knowledge of Contractor. Written communication with Owner will be only through or as directed by Engineer.

9.3.1 The Project Representative will:

- (1) Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assisting him in understanding the intent of the Contract Documents and assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-site operations.
- (2) As requested by Engineer, assist in obtaining from Owner additional details or information, when required at the job site for proper execution of the Work.
- (3) Conduct on-site observations and testing of the Work in progress to assist Engineer in determining if the Work is proceeding in accordance with the Contract Documents and that completed Work will conform to the Contract Documents.
- (4) Be responsible for the maintenance of record documents showing changes made during construction.

9.3.2 The duties and responsibilities and the authority of the Project Representative as Engineer's Agent during construction shall not exceed in any case those of the Engineer as Owner's representative during construction. Except on written instructions of Engineer, the Project Representative may not authorize any deviation from the Contract Documents or approve any substitute materials or equipment.

9.3.3 Specifically omitted from the Project Representative's duties are any review of the Contractor's safety precautions, or the means, methods, sequences or procedures required for the Contractor to perform the work but not relating to the final or completed Project. Omitted design or review services include, but are not limited to, shoring, scaffolding, underpinning, temporary retainment, excavations, and any erection methods and temporary bracing.

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 or reasonably inferable from the overall intent of the Contract Documents. If Contractor believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, Contractor may make a claim therefor 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 Time and are consistent with the overall intent of 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. A Field Order may authorize a change in the Work which results in a minor change in the quantity of specific unit price items included in the Agreement. If Contractor believes that a Field Order justifies an increase in the Contract Price, other than minor variations in quantities for Unit Price items, or an extension of the Contract Time and the parties are unable to agree as to the amount or extent thereof, Contractor may make a claim therefor 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, and 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 responsibility for Shop Drawings and samples, see paragraphs 6.23 through 6.28 inclusive.

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

9.9. In connection with Engineer's responsibilities in respect of Applications for Payment, etc., see Article 14.

Determinations of Quantities:

9.10. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer written decisions 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 party to the Agreement and to Engineer written notice of intention to appeal from such a decision.

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 Time will be referred initially to Engineer in writing with a request for a formal decision in accordance with this paragraph, which Engineer will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to Engineer and the other party

to the Agreement promptly (but in no event later than fifteen days) after the occurrence of the event or after the end of the period of events giving rise thereto, and written supporting data will be submitted to Engineer and the other party within thirty days after such occurrence unless Engineer allows an additional period of time to ascertain more accurate data in support of the claim.

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 and 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.

Limitations on Engineer's Responsibilities:

9.13. Neither Engineer's authority to act under this Article 9 or elsewhere in the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of Engineer to Contractor, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

9.14. 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 the Work for compliance with 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 9.15 or 9.16.

9.15. Engineer will not be responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and Engineer will not be responsible for Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

9.16. 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.

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; these will be authorized by 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 increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Change Directive, a claim may be made therefor 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 Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of an emergency as provided in paragraph 6.22 and except in the case of uncovering Work as provided in paragraph 13.9.

10.4. Owner and Contractor shall execute appropriate Change Orders covering:

10.4.1. Changes in the Work which are ordered by Owner pursuant to paragraph 10.1, are required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or are agreed to by the parties;

10.4.2. Changes in the Contract Price or Contract Time which are agreed to by the parties; and

10.4.3. Changes in the Contract Price or Contract Time 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 Time) 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 his expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order. Any claim for an increase or decrease 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 fifteen days) after the occurrence of the 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 thirty 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 claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said 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. Failure to submit a claim for an adjustment in the Contract Price in accordance with this paragraph 11.2. will invalidate said claim.

11.3. The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of 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. By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2.1.)

11.3.3. On the basis of the cost of the Work or a Force Account (determined as provided in paragraphs 11.4 and 11.5) plus a Contractor's Fee for overhead and profit (determined as provided in paragraphs 11.6 and 11.7)

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 amounts 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. 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' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. 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 all 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 by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from Subcontractors acceptable to Contractor and shall deliver such bids to Owner who will then determine, with the advice of Engineer, which bids will be accepted. If a 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 shall be determined in the same manner as Contractor's Cost of the Work. 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 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. Equipment/machinery costs shall be apportioned to the actual time the equipment/machinery is in operation to perform the work. Down time or standby time shall not be charged to the Owner by the Contractor.

11.4.5.4. Any applicable taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

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

11.4.5.6. 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.

11.4.5.7. 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 manager, 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 Overhead and 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 sub-paragraph 11.4.5.7 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.

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

Contractor's Fee:

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; or if none can be agreed upon,

11.6.2. A fee based on the following percentages of the various portions of the cost of the Work:

11.6.2.1. For costs incurred under paragraphs 11.4.1 and 11.4.2, the Contractor's Fee shall be fifteen percent;

11.6.2.2. For costs incurred under paragraphs 11.4.3 and 11.4.4 the Contractor's Fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a fee, the subcontractor fee for overhead and profit shall be fifteen percent;

11.6.2.3. No fee shall be payable on the basis of costs itemized under paragraph 11.4.5;

11.6.2.4. The amount of credit to be allowed by Contractor to Owner for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in Contractor's Fee by an amount equal to ten percent of the net decrease; and

11.6.2.5. When both additions and credits are involved in any one change, the adjustment in Contractor's Fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.4, inclusive.

Force Account Work:

11.7. Whenever a change in the Work and Contract Price are authorized to be done on the basis of a Force Account, the cost of said Work shall be paid for pursuant to the requirements of paragraphs 11.4 through 11.6 and this paragraph 11.7. The Contractor and the Engineer or his designated Project Representative shall compare and agree on all records for labor, material and equipment furnished on a daily basis. All applications for payment of Force Account Work shall be accompanied by fully documented and itemized breakdowns of all types of costs incurred together with supporting data. Supporting data shall include copies of all invoices for actual materials incorporated in the Work, equipment rentals, subcontractor itemized invoices, etc.

Cash Allowances:

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 done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to 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 costs 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. No demand for additional payment on account of any thereof 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.

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 prices 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. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment if the total cost of a particular item of Unit Price Work amounts to five percent (5%) or more of the Contract Price based on the original bid and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than twenty percent (20%) from the bid quantity of such item indicated in the Agreement unless otherwise specified in the Supplementary Conditions. Contractor may make a claim for an increase in the Contract Price in accordance with Article 11 if the parties are unable to agree as to the amount of any such increase.

ARTICLE 12 - CHANGE OF CONTRACT TIME

12.1 The Contract Time may only be changed by a Change Order or a Written Amendment. Any claim for an extension or shortening of the Contract Time 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 fifteen days) after the occurrence of the event or after the end of the period of events 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 thirty days after such occurrence (unless Engineer allows an additional period of time to ascertain more accurate data in support of the claim). All claims for adjustment in the Contract Time shall be determined by Engineer in accordance with paragraph 9.11 if Owner and Contractor cannot otherwise agree. Failure to submit a claim for an adjustment in the Contract Time in accordance with the requirements of this paragraph 12.1. will invalidate said claim.

12.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of Contractor if a claim is made therefor as provided in this Article 12. Such delays shall include, but not be limited to, acts or neglect by Owner or others performing additional work as contemplated by Article 7, or to fires, floods, labor disputes not the fault of the Contractor, coordination with the work of others, abnormal weather conditions, acts of God, and delays caused by subcontractors and suppliers if the delays are beyond the control of the subcontractor or supplier.

12.2.1. Inclement weather shall be defined as precipitation and/or temperature conditions which prevent substantial work on the project for more than 50% of the full number of hours in the normal daily schedule as determined by the Engineer. Abnormal weather shall be defined as inclement weather in excess or variation of the normal monthly averages for the specific type of inclement weather condition. Requests for an extension of contract time due to abnormal weather conditions will be considered by the Engineer, subject to the following requirements:

(1) Any individual request shall cover a minimum of one full calendar month or portion thereof if at the beginning or ending of the project time. Requests shall be submitted no more frequently than monthly.

(2) Each request shall fully document the specific date and nature of each inclement weather day in the period for which the request is made.

(3) Each request shall document the normal monthly average number of days for inclement weather conditions being considered based on the following table:

<u>Month</u>	<u>Normal monthly average Inclement weather days</u>
January	8
February	7
March	7
April	6
May	4
June	4
July	4
August	4
September	5
October	6
November	7
December	7

(4) Each request shall document the number of normal schedule days (weekdays) in the period during which substantial work could have proceeded, but did not at Contractor's choice.

(5) Each request shall document the number of non-normal schedule days (Saturdays, Sundays and holidays, unless otherwise authorized by the Engineer) in the period during which inclement weather defined in (2) above occurred.

(6) The determination of the number of extension days due to abnormal weather shall be made based on the number of inclement weather days determined in (2) above less the number of days determined in (3), (4) and (5) above.

12.3. All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 12 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by either party.

Computation of Time:

12.4.1. 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.

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

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

Warranty and Guarantee:

13.1. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to Contractor. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2. Engineer and Engineer's representatives, other representatives of Owner, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at all reasonable times for their observation, inspecting and testing. Contractor shall provide proper and safe conditions for such access.

Tests and Inspections:

13.3. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish Engineer the required certificates of inspection, testing or approval. Contractor shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with Owner's or Engineer's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals in addition to the above which are required by the Contract Documents shall be paid by Owner (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to Owner and Contractor (or by Engineer if so specified).

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

13.7. Neither observations by Engineer nor inspections, tests or approvals by others shall relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract Documents.

Uncovering Work:

13.8. If any Work is covered contrary to the written request of or without the approval 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 bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), 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 therefor 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 Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and, if the parties are unable to agree as to the amount or extent thereof, Contractor may make a claim therefor 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 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 non-defective Work. Contractor shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

One Year Correction Period:

13.12. If within one year after the date of Final 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, either correct such defective Work, or, if it has been rejected by Owner, remove it from the site and replace it with non-defective work. 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 direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by Contractor. In special circumstances where a particular portion is placed in continuous service before Final 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.

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 bear all direct, indirect and consequential costs attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). 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 therefor as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner or deducted from amounts owed to Contractor.

Owner May Correct Defective Work:

13.14. If Contractor fails within a reasonable time after written notice of Engineer to proceed to correct and 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. To the extent necessary to complete 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, 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 such access to the site as may be necessary to enable Owner to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of Owner in exercising such rights and remedies will be charged against Contractor in an amount approved as to reasonableness by Engineer, 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 therefor as provided in Article 11. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and 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 Time because of any delay in performance of the Work attributable to the exercise by Owner of Owner's rights and remedies hereunder.

Owner May Regulate Work:

13.15. The Owner shall have the authority to regulate the amount of work which may be open or under construction in advance of the completed portions of the Work. The sequence of construction shall be approved by the Engineer prior to construction if not specifically covered in the Contract Documents.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

Basis of Payment:

14.1. Progress payments for unit price contracts shall be based on the number of units completed. If a number of units are partially completed, the estimated percentage of the partially completed units times the number of units shall determine the completed units for that item. Lump sum items shall be paid based on the estimated percentage of completion at the end of each progress payment period.

Application for Progress Payment:

14.2 Contractor shall submit to Engineer for review an Application for Payment filled out and signed by the 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. All applications for payment shall include an updated and/or revised project schedule conforming to the requirements of paragraph 2.6.1. Contractor shall submit the Application for Payment within seven (7) days following the end of the period for which payment is being requested. 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 and proof of payment for said materials warranting that Owner has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and/or 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:

14.4. Engineer will, within seven (7) days after receipt of each Application for Payment, both indicate in writing, a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reason for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application. Engineer will, within seven (7) days, review the resubmitted application as detailed above. Twenty-One (21) days after presentation of the Application for Payment with Engineer's recommendation for approval, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by Owner to Contractor.

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 Work in progress as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules that the Work has progressed to the point indicated; that, to the best of Engineer's knowledge, information and belief, the quality of the Work is 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 that Contractor is entitled to payment of the amount recommended.

14.6. Engineer's recommendation of final payment will constitute an additional representation by Engineer to Owner that the conditions precedent to Contractor's being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

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 such representations to the Owner. 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 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. Of Engineer's actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.9 inclusive.

Owner may refuse to make payment of the full amount recommended by Engineer because claims have been made against Owner on account of Contractor's performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling Owner to a set-off against the amount recommended, but Owner must give Contractor immediate written notice stating the reasons for such action.

Substantial Completion:

14.8. When Contractor considers the entire Work ready for its intended use Contractor shall notify 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 notice 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 therefor. If Engineer considers the Work substantially complete, Engineer will prepare and deliver to Owner and Contractor a notice of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a list of items to be

completed or corrected before final payment. At the time of delivery of the notice 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 operation, safety, maintenance, insurance and warranties.

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 list.

Partial Utilization:

14.10 The Owner shall have the right to take possession of and use any finished part of the Works when it can be established by the Owner and Engineer that the part in question constitutes a separately functioning and usable part of the Work that can be used by Owner without significant interference with Contractor's performance of the remainder of 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, Contractor will certify to Owner and Engineer that said part of the Work is substantially complete. Engineer will then issue a notice of Substantial Completion for said part of the Work. The provisions of paragraphs 14.8 and 14.9 will apply with respect to said Substantial Completion and the division of responsibility in respect thereof and access thereto.

14.10.2. Owner may at any time notify Contractor in writing of Owner's intent to take over operation or use of any such part of the Work although it is not substantially complete. Engineer shall make an inspection of that part of the work to determine its status of completion and prepare a list of items remaining to be completed or corrected thereon before final payment. Engineer shall submit said list together with a written recommendation as to the division of responsibilities pending final payment between Owner and Contractor with respect to operation, safety, maintenance, insurance, warranties and guarantees for that part of the Work which will become binding upon Owner and Contractor at the time when Owner takes over such operation or use. During such operation or use and prior to Substantial Completion of such part of the Work, Owner shall allow Contractor reasonable access to complete or correct items on said list and to complete other related Work.

If Contractor believes that Owner's action to take possession of and use said part of the Work justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, Contractor may make a claim therefor as provided in Article 11 or Article 12.

14.10.3. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.12 in respect of property insurance.

Final Inspection:

14.11. Upon 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 remedy such deficiencies.

Final Application for Payment:

14.12. After Contractor has completed all such corrections to the satisfaction of Engineer and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents - all as required by the Contract Documents, and after Engineer has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with 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 thereof and as approved by Owner, Contractor may furnish receipts or releases and receipts in full; an affidavit of Contractor that the releases include all labor, services, material and equipment for which a Lien could be filed, and that 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; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, Contractor may furnish a Bond or other collateral satisfactory to Owner to indemnify Owner against any Lien. The Contractor shall also be responsible for correct submittal of all payroll information to the satisfaction of the Contracts and Procurement Division-Contract Compliance prior to submittal of the application for final payment.

Final Payment and Acceptance; Deadline for Submission of Final Application for Payment:

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 - all 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, including compliance with Section 14.13(a), Engineer will, within seven (7) days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application to Owner. If Engineer does not recommend payment, Engineer will return the Application to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor may make the necessary corrections and resubmit the application unless Contractor has forfeited payment pursuant to Section 14.13(a). Except as provided by Section 14.13(a), thirty (30) days after presentation to Owner of the application and accompanying documentation, in appropriate form and substance, and with Engineer's recommendation, the amount recommended by Engineer will become due and will be paid by Owner to Contractor.

14.13(a) Final Application for Payment; Deadline. If the Contractor has not submitted a final application for payment within sixty 60 days from the date of the Engineer's determination that the Work is acceptable pursuant to Section 14.12, the Owner will notify the Contractor, in writing, that a final application must be submitted within thirty (30) days from the date of the notification or else the Contractor will be deemed to have forfeited any remaining amounts due.

14.13(b) Forfeiture of Payment. Contractor agrees that failure to timely submit a Final Application for Payment pursuant to Section 14.13(a) will result in forfeiture of any remaining amounts due.

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.

Contractor's Continuing Obligation:

14.15. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by Engineer, nor the notice of Substantial Completion, nor any payment by Owner to Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by Owner, nor any act of acceptance by Owner nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by Engineer pursuant to paragraph 14.13, nor any correction of defective Work by Owner will constitute an acceptance of Work not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 14.16).

Waiver of Claims:

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

14.16.1. 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 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by Owner of any rights in respect of Contractor's continuing obligations under the contract Documents; and

14.16.2. 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. Owner may, at any time and without cause, suspend the work, or any portion thereof, for a period of not more than 120 days, by notice in writing to Contractor and Engineer. Contractor shall resume the Work on the date fixed by Owner by notice in writing to Contractor and Engineer. Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension by Owner without cause and in excess of 120 days if Contractor makes an approved claim therefor 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 commences a voluntary case under any chapter of the bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if Contractor takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

15.2.2. If a petition is filed against Contractor under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against Contractor under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

15.2.3. If Contractor makes a general assignment for the benefit of creditors;

15.2.4. If a trustee, receiver, custodian or agent of Contractor is appointed under applicable law or under contract, whose appointment or authority to take charge of property of Contractor is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of Contractor's creditors;

15.2.5. If Contractor admits in writing an inability to pay its debts generally as they become due;

15.2.6. 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 2.6 as revised from time to time);

15.2.7. If Contractor disregards Laws or Regulations of any public body having jurisdiction;

15.2.8. If Contractor disregards the authority of Engineer; or

15.2.9. If Contractor otherwise violates in any substantial way any provisions of the Contract Documents;

Owner may, after giving Contractor (and the surety, if there be one) 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, 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 the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) such excess will be paid to Contractor. If such costs exceed such unpaid balance, Contractor shall pay the difference to Owner. Such costs incurred by Owner will be approved as to reasonableness by Engineer and incorporated in a Change Order, but 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 moneys due Contractor by Owner will not release Contractor from liability.

15.4. Upon seven days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, Contractor shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court costs).

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 120 days by Owner or under an order of court or other public authority, or Engineer fails to act on any Application for Payment within forty-five (45) days after it is submitted, or Owner fails for forty-five (45) days after submittal of the application to pay Contractor any sum finally determined to be due provided that Contractor has complied with all appropriate requirements of these Contract Documents, then Contractor may, upon seven days' written notice to Owner and Engineer, terminate the Agreement and recover from Owner payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if Engineer has failed to act on an Application for Payment or Owner has failed to make any payment as aforesaid, Contractor may upon seven days' written notice to Owner and Engineer stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve Contractor of the obligations under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with Owner.

ARTICLE 16 - MISCELLANEOUS

Giving Notice:

16.1. 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 regular mail postage prepaid, to the last business address known to the giver of the notice.

General:

16.2. 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 16.2 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

16.3. 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 6.30, 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 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. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

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Footnote: These General Conditions are based on the "Standard General Conditions of the Construction Contract", prepared by the Engineers Joint Contract Documents Committee, EJCDC No.1910-8 (1983 Edition). Deletions and additions have been made to the referenced document as deemed appropriate for use by the City of Topeka.

DOCUMENT 820
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend, modify or supplement the General Conditions for City of Topeka Department of Public Works Construction Projects, Document 700, other provisions of the Contract Documents, the Standard Technical Specifications or the Drawings, as indicated below. All provisions which are not so amended, modified or supplemented shall remain in full force and effect.

DOCUMENT 1000
PROJECT REQUIREMENTS

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PROJECT REQUIREMENTS

ARTICLE 1 – PROJECT DESCRIPTION

1.01 *Reservoir Information*

- A. The reservoir is located at 6900 SW Crestwood Drive, Topeka, Kansas 66619. It is a 500,000-gallon double-ellipsoidal style potable water reservoir, as shown in Appendix A, that was constructed at an unknown date. The date of last reconditioning is also unknown. Approximate dimensions are as follows: tank diameter of 50-feet, high-water level of 95-feet, low-water level of 65-feet, and an overall height of 100-feet.

1.02 *This project includes the following work.*

1. Cleaning, sandblasting, and painting all interior and exterior surfaces. Full containment is mandatory.
2. Miscellaneous structure modifications.
3. Welding and grinding to remove erection bracket scab marks, weld spatter, poor welds, and other surface irregularities.

ARTICLE 2 – CONTRACT DOCUMENTS

2.01 *Using Contract Documents as a Guide*

- A. It is intended that the Contract Documents shall form a guide for the entire work to be accomplished under the Contract. Where an item is not specifically mentioned, and it is reasonably necessary for the complete work, the contractor shall furnish and install it under this Contract. Should questions or conflicts arise in the Contract Documents, they shall be directed to the Engineer in writing, the Engineers decision is final in the resolution of questions or conflicts. Where an item is mentioned in one section of the documents but not another similar or referenced section, it shall be considered binding under the contract as though mentioned in both. For bidding purposes and on items without clarification by the Engineer, the item with the greatest total cost shall determine the work required.

ARTICLE 3 – PROJECT SCHEDULE

3.01 *Duration for Tower Out-of-Service*

- A. **Start on September 8, 2026, and complete by November 20, 2026 (total of 75 calendar days that includes unfavorable weather days (Paragraph 3.03.B)).**
- B. **Structure modifications that do not impact tower operation may begin before the start date and will not count toward the out-of-service duration.**
- C. **Start date can be adjusted slightly to accommodate weather or contractor schedule with Owner and Engineer approval, however, the tower cannot be out of service in August. The total project duration must remain the same if schedule shifts.**

3.02 *Submittals and Requirements*

- A. Refer to Article 2.6 in the General Conditions for schedule submittals and requirements.

3.03 *Rate of Progress*

- A. The rate of progress shall be such that the work will be completed in accordance with the Contractor's submitted construction schedule and the terms of the Contract Documents. If in the opinion of the Engineer progress is not being maintained according to the construction schedule, changes shall be made in the Contractor's operations to assure project completion remains on schedule.
- B. Refer to Article 12 in the General Conditions for changes to contract time.

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ARTICLE 4 – WORK TO BE DONE BY OWNER

4.01 *Reservoir, Valves, and Drains*

- A. The Owner will perform emptying and refilling of the reservoir and will operate all water main valves and/or reservoir drains. Contractor to coordinate with the Owner any processes that require these operations. It is anticipated the Owner will have the reservoir drained by the start dates listed in Article 3 unless the Contractor and Owner agree upon an alternate date at least two weeks prior. The Owner will provide the Contractor with the reservoir mostly free from standing water and with a positive shut-off.
- B. The Owner shall perform bacteria testing of the water after disinfecting.

ARTICLE 5 – CONTRACTOR’S USE OF FACILITIES

5.01 *Use of Facilities*

- A. The Contractor shall provide a suitable self-contained type “Port-a-Potty” for the duration of the Project. Said restroom shall be satisfactorily serviced and kept in a sanitary condition at all times.
- B. Contractor’s office facilities, materials storage, sanitary facilities, workman facilities (change room, showers, lunchroom), and security shall be the responsibility of the Contractor.
- C. The Contractor shall confine all equipment, apparatus, the storage of materials, and the operations of workers to the Owner’s property, as directed by the Engineer or Owner and shall not unreasonably encumber the premises with materials or equipment.
- D. For the duration of the project, noise levels shall be regulated in accordance with all applicable local and state ordinances.
- E. The Contractor shall furnish, erect, and maintain warning lights, signs and barricades as required by the specifications, Owner, Engineer, and ordinances to adequately warn the public from hazardous site conditions, materials, Contractor’s equipment, lead paint removal, etc., resulting from the construction. The contractor shall comply with all local and state ordinances such as working hours, noise abatement, etc. All equipment shall be quiet type models with effective mufflers on engine exhaust systems and compressors, dust collectors, etc.
- F. Limited construction power will be available from existing sources at the construction site. **Additional electrical requirements and construction power required by the Contractor will be the Contractor’s responsibility.**
- G. The Contractor shall be responsible to provide temporary, minimum 6-foot height, wire mesh or snow type fencing around the perimeter of the project work area to hinder unauthorized access to the site.
- H. The Contractor may utilize the hydrant on site so long as a backflow prevention device is installed. Water will not be metered.

ARTICLE 6 – CONTRACTOR’S WORK HOURS

6.01 *Hours*

- A. Authorized working hours for this project shall be 7:00 am to 7:00 pm, Monday through Friday. No work shall be performed outside of these hours or on Saturdays or Sundays without written request from the Contractor and written approval from the Owner. No work shall be performed on legal holidays.
- B. The Contractor expressly agrees to be responsible for reimbursing the Owner for the inspector’s hours and expenses for all work required outside the authorized working hours, on Saturdays and Sundays. These fees may include any accompanying contract administration,

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PROJECT REQUIREMENTS

engineering, project management, or project supervision time. The hourly rates will be in conformance with the Engineer's current project fee schedule. Overtime work shall be understood to be 1.5 times the hourly rate. Payment to the Owner shall be made by deductions to progress or final payments.

ARTICLE 7 – NOTICE TO PROCEED

7.01 *Notice to Proceed Process*

- A. The Engineer shall provide the Contractor a Notice to Proceed after the Owner/Engineer receives all the necessary Contract Document submittals.

ARTICLE 8 – QUALITY ASSURANCE

8.01 *Inspection*

- A. The Contractor shall notify the Inspector not less than 24 hours prior to welding, grinding, abrasive blasting, or application of all coatings. Any work performed without the 24-hour notification and the presence of the Inspector will be deemed unacceptable and shall be removed and replaced. Any areas not in conformance with the Contract Documents shall be corrected by the Contractor as directed by the Inspector or Engineer, at the Contractor's expense.

8.02 *Worker Health*

- A. No one, the Contractor, Contractor's employees, or anyone under Contractor's control, shall work in the tank if that person has been under or has needed physician's care or has had a contagious or communicable disease within a seven-day period prior to entering or working on said tank.

ARTICLE 9 – EMERGENCY RETURN TO SERVICE

9.01 *In an Emergency*

- A. The Owner reserves the right, upon 24-hours' notice to the contractor, to return the reservoir to service. In case of an emergency return to service, the Contractor agrees to negotiate, in good faith, with the Owner their extra costs and damages associated with this break in the construction schedule.

DOCUMENT 1100
TECHNICAL SPECIFICATIONS

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TECHNICAL SPECIFICATIONS

ARTICLE 1 – DESCRIPTION OF BID ITEMS

1.01 *Structure Modifications: Bid Item #1*

- A. *Photos and drawings referenced are in Appendix A and Appendix B, respectively.*
 - B. *Refer to Article 13 of this Section for additional material and product information.*
 - C. *All steel referenced for repairs shall be A36 or noted otherwise.*
1. Seal weld all interior wet seams, including the following: See photos 2 through 5.
 - a. Both sides of the intermittently welded roof stiffeners to roof connection,
 - b. Where the dollar plate sections overlap,
 - c. Where the dollar plate overlaps the roof plates,
 - d. Where the roof plates overlap each other,
 - e. Where the roof plates overlap the upper torus plates, and
 - f. Around the overflow pipe penetration and weir plate/bracket in the upper torus.
 2. Remove all (approximately 12) cathodic protection hand holes in the roof and upper torus, including all associated hangers. Install a ¼-inch thick patch plate of uniform diameter over the resulting holes, including the associated bolt holes, and seal weld from inside and outside. Refer to KLM Drawing No. 12a. See photos 2 through 4.
 3. Install a steel plate, ¼-inch thick by 2-inch wide by pipe diameter height, welded on edge on the overflow discharge opening to act as a vortex breaker. See photos 2 and 3.
 4. Remove the couple of brackets welded to the underside of the roof, adjacent to the access manway. Repair and grind the attachment areas smooth with the surrounding surface. See photos 5 and 29.
 5. Seal weld both sides of the intermittently welded stiffener ring to shell connection. See photos 6 and 7.
 6. Remove the cathodic protection system in its entirety, including, but not limited to, all items such as cables, ropes, mount clips, brackets, conduit, junction boxes, and rectifier cabinets. Grind all mount clip and bracket locations flush with surrounding surfaces. See photos 8, 13, 16, 42, and 43.
 7. Replace the angle style guardrail at the top of the wet riser with a circular, fully-welded, 42-inch tall pipe style handrail fabricated of 2.5-inch diameter schedule 80 carbon steel pipe. Grind the attachment areas of the existing guardrail flush with the surrounding surfaces. Refer to KLM Drawing No. 15e. See photos 15 and 16.
 8. Remove the entire antenna mount assembly attached to the roof. Grind any remaining welds flush with the dollar/roof plates. See photos 17 through 25.
 9. Remove the finial vent and install a new 24-inch diameter aluminum pressure pallet vent and raised flange collar. Seal weld all interior and exterior seams of the new collar installation. The new vent and vent screen design shall meet AWWA D100 and Kansas Department of Health and Environmental Regulations and Policies, General Considerations and Design Requirements for Public Water Supply Systems in Kansas with 100% shielding of the inlet screen to prevent the entrance of wind driven debris, insects, birds, animals, and all precipitation. Refer to KLM Drawing No. 8a for typical vent and collar design and installation. See photo 25.
 10. Install a new, OSHA compliant, fully-welded 20-foot diameter roof handrail system. The new handrail shall be fabricated with 2.5-inch diameter steel pipe, including two (2) mid-rails, and be 48-inches tall. Posts and rails shall all be schedule 80. The handrail shall be designed with

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- a 3-foot opening at the ladder location. Install an OSHA compliant self-closing gate where the new ladder enters the new handrail opening. Refer to KLM Drawing No. 14e and 22b.
11. Replace the existing aviation light and bracket with a new double LED style aviation light and sensor. Install a pivoting style bracket on the new roof handrail. Install the new light and sensor on the new bracket. Modify or replace the conduit as required. Refer to KLM Drawing No. 1c. See photos 17 and 21.
 12. Install two (2) 24-inch diameter, hinge-covered, one-piece gasketed roof manways within the new roof handrail, approximately 180-degrees from each other. Remove the existing wet access manway and plate over the opening with ¼-inch thick steel plate. All interior and exterior seams of the manway additions/removals shall be seal welded. The new covers shall create a uniform, tight seal when closed. Refer to KLM Drawing No. 10a. See photos 17 and 29.
 13. Replace the roof, shell, and column ladders, with new ladders conforming to OSHA regulations. Include installation of a new, hinged, locking, aluminum anti-climb cover at the bottom of the column ladder. Start the new column ladder 10-feet above the top of the concrete footing. The new shell/roof ladder shall be continuous from balcony to roof. The new roof ladder shall terminate just inside the new roof handrail. Reattach the electrical conduit to the new brackets identified in the following items. Refer to KLM Drawing No. 19 and 20. See photos 17, 29, 32, 33, 35, 37, and 41.
 14. Install cable-style safety climb devices conforming to OSHA regulations on all the new ladders. Include two (2) full body NIOSH approved harnesses with chest D-ring, two (2) shock-absorbing double lanyards with rebar hooks, and two (2) cable sleeves with carabiners. Refer to KLM Drawing No. 24.
 15. Install 1-foot wide cable brackets, spaced at maximum 4-foot intervals, on the shell from the balcony to the new roof handrail. Brackets are to be installed along the left side of the new shell ladder and within easy reach. Refer to KLM Drawing No. 4d. See photo 32.
 16. Just above the balcony floor, install two (2), 1-foot wide cable brackets on the shell at maximum 4-foot spacing between the new cable penetration in the balcony (noted below) and the new shell ladder. Brackets shall be installed vertically on the shell and all seams seal welded. Refer to KLM Drawing No. 4d. See photo 33.
 17. Install a 12-inch long by 4-inch wide penetration, with curbs, in the balcony floor, located to the right of the support column and in-line with the new stand-off brackets to be installed on the access column (noted below). Seal weld all seams and radius all corners of the new penetration. Refer to KLM Drawing No. 5d. See photo 37.
 18. Replace the balcony handrail with a new angle-style handrail conforming to OSHA regulations. Provide a pass-through transition where the column ladder and new handrail connect and an OSHA compliant self-closing gate across the opening. Orientation of the rails is critical. Refer to KLM Drawing No. 22, 27c, and 29c. See photos 33 and 34.
 19. Install 4-inch x 4-inch stand-off brackets, evenly spaced at 4-foot intervals, located along the right side of the new access ladder and up to the new penetration in the balcony floor. All brackets shall be seal welded to the column. Refer to KLM Drawing No. 4b.
 20. Seal weld all antenna cable angle brackets tack welded to the support column. See photo 40.
 21. Seal weld the steel plate on the right side of the access ladder to the support column. See photos 41 and 42.
 22. Install a 24-inch diameter, pressure-style manway in the base of the wet riser, approximately 180-degrees from the existing manway. Refer to KLM Drawing No. 37a. See photo 44.
 23. Replace the gasket on the existing wet riser manway. See photo 44.

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24. Remove any loose or damaged grout under the base of each column and the wet riser, clean the areas, and repair with non-shrink grout. Remove the grout applied to the top and sides of some of the concrete footings and prepare for coating. See photos 44 and 46 through 49.
25. After grout and coating work is complete, caulk around the perimeter of each support column and the wet riser base where the steel meets the concrete. See photos 44 and 46 through 49.
26. Replace the overflow pipe screen with new corrosion-resistant, heavy-gauge, No. 4, and No. 24 mesh screens (#4 installed downstream of #24). See photo 51.

1.02 *Surface Repairs: Bid Item #2*

- A. For bidding purposes, it is estimated that there are approximately **150 man-hours** of surface repairs. This work will be monitored and verified by the Inspector of the project. Increases or decreases in the amount of work, and appropriate contract price adjustments, will be made per the General Conditions.
- B. The man-hour price for surface repairs shall include all costs for labor, materials, and equipment to properly complete all work as described above, including all incidental work as shown on the drawings, described in the specifications, or otherwise required to complete the work. All work incidental to performing these surface repairs, including, but not limited to, rigging, blasting and surface preparation, or otherwise required to complete the work shall be included in the price for the work. The services of a person on the ground (ground man), as required by OSHA, during times when surface repair work is being performed, shall also be considered incidental work. Expenses for such work or services shall be included in the price for each man-hour. Measurement of hours performed shall be determined by the Engineer and final.
- C. All erection scab marks shall be removed and repaired by welding and grinding to restore the plate to a smooth, flush condition. All weld defects and spatter shall be removed by grinding in conformance with the requirements of Appendix C, AMPP/NACE Standard SP0178-2007, Weld Preparation Designation "C". Other surface irregularities deemed in need of repair by the Engineer shall be performed to the above standards and to the satisfaction of the Engineer. Included in this work, but not limited to, is the radius grinding of all sharp edges on the overflow weir box, inlet/outlet pipe, painters rigging brackets, stiffener rings, steel delamination, tear-outs, manway curbs and covers.

1.03 *Interior Wet Area Abrasive Blast and Coating: Bid Item #3*

- A. Remove all surface contaminants in accordance with AMPP/SSPC-SP 1, Solvent Cleaning. After structure modifications and repairs, abrasive blast entire interior, including piping and appurtenances in the valve pit, to an AMPP/NACE No. 2/SSPC-SP 10 Near White Metal Blast Cleaning.
- B. Apply a zinc/epoxy coating system, including stripe coat, as specified in Articles 11 and 12 of this Section.
- C. Perform high-voltage spark testing of all interior wet area surfaces to ensure the coating conforms to near AMPP/NACE Condition "A" Pinhole Free, at Engineer's discretion. The intent of the applied coating film is to be continuous.
- D. Disinfect reservoir and clean up site per Articles 14 and 15 of this Section. The Contractor shall be fully responsible for proper testing, waste evaluation, waste tracking, documentation, and disposal of interior waste generated per state and federal (RCRA/EPA) pollution control agency regulations and the Contract Documents.

1.04 *Exterior Area Abrasive Blast and Coating: Bid Item #4*

- A. An exterior containment system is required. See Article 8 of this Section.
- B. Remove all surface contaminants in accordance with AMPP/SSPC-SP 1 Solvent Cleaning. After structure modifications and repairs are completed, abrasive blast all exterior surfaces to

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an AMPP/NACE No. 3/SSPC-SP 6 Commercial Blast Cleaning. This includes all antenna, coaxial cable, miscellaneous supports and/or brackets, painted cabinets either attached or freestanding, valve pit hatch, and the exposed concrete footings of the support columns and wet riser.

- C. Apply a zinc/epoxy/urethane/fluoropolymer coating system as specified in Articles 11 and 12 of this Section.
- D. Apply a non-skid walkway to the entire roof area within the roof handrail assembly, as specified in Articles 11 and 12 of this Section.
- E. Clean up per Article 15 of this Section. The Contractor shall be fully responsible for proper testing, waste evaluation, waste tracking, documentation, and disposal of exterior waste generated per state and federal (RCRA/EPA) pollution control agency regulations and the Contract Documents.

1.05 Mobilization: Bid Item #5

- A. Mobilization shall consist of all work and operations for, including but not limited to, the movement of personnel, equipment, supplies, and incidentals to and from the project site, the establishment and subsequent removal of all offices, Contractor's buildings, and other facilities necessary for work on the project, disinfection of the reservoir and site clean-up per Articles 14 and 15 of this Section, and all other work and operations which must be performed, or costs incurred, prior to beginning and after completion of work on the project site.
- B. The Contractor shall be responsible for any incidental cleaning of the reservoir required after draining. Some sludge/sediment in the bottom of the reservoir is to be anticipated. Disposal on the property of any material cleaned from the reservoir is not permitted. All sludge/sediment and waste material generated by the work shall be hauled off-site and disposed of properly by the Contractor.
- C. Site restoration of all disturbed areas shall be completed to pre-project conditions, at a minimum, and the Owner's satisfaction.

ARTICLE 2 – SUBMITTALS

2.01 Submit to Engineer

- A. Submit electronically to the Engineer, a minimum of ten (10) business days before the pre-construction meeting, the following items in Paragraphs B and C for review, in conformance with the Contract Documents.
- B. Provide the project submittals and shop drawings noted below in a single package unless multiple packages have been discussed and approved by the Engineer.
- C. Submittals shall be presented in clear and thorough manner, in the order listed below, complete with respect to product information, dimensions, design criteria, field measurements clearly identified, materials of construction, and like information to enable review. Contractor shall review submittals prior to submission. After review by the Engineer, an electronic copy of the submittals will be returned to the Contractor for review and any necessary corrective action. Format submittals in the following manner:
 - 1. On Contractor's letterhead for each submittal listed below
 - 2. Submittal date
 - 3. Submittal number and any previous submissions
 - 4. Project name and number
 - 5. Brief identification of items being submitted including supplier and manufacturer
 - 6. Stamped as approved by the Contractor

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7. A 4" x 4" space for the Engineer's stamp
- D. Notify Engineer in writing, at time of submission, of any deviations in submittal from requirements of Contract Documents. Any such deviations permitted by Engineer will require modifications of Contract Documents.
- E. Begin no fabrication or work which requires submittals until return of submittals by Engineer with Engineer's stamp, as "Reviewed" or "Reviewed with Comments".
- F. Submittals stamped "Revise & Resubmit" or "Rejected" shall be corrected as noted. Resubmittals shall be made as required until being marked "Reviewed" or "Reviewed with Comments". Each resubmittal shall address all changes determined by or resultant from the Engineer's revisions prior to submitting.
- G. Project submittals:
 1. List of subcontractors
 2. Construction schedule
 3. Schedule of values
 4. Cost breakdown statement of Structure Modifications in Article 1.01
 5. Welder certifications
 6. Containment plan
 7. TCLP sampling plan
 8. Special procedures, if applicable; i.e., dehumidification, heating
 9. Interior and exterior rigging plan (in reference to type of rigging; i.e., electric/air motors, boom styles, etc.)
 10. Abrasive and coating materials including product data sheets, color charts, and environmental data sheets
 11. Color selection draw-downs for each area and color selected, with color name and number
 12. Tank interior cleaning and disinfection procedures
 13. Manway gasket materials and products
 14. Corrosion-resistant screen products
 15. Double aviation red obstruction light and sensor
 16. Safety climb/fall protection systems (cable, harnesses, etc.)
 17. Caulk
 18. Non-shrink grout
 19. Self-closing gate
 20. Ladder anti-climb cover
- H. Shop drawings for the following items:
 1. Wet riser pressure-style manway, 24-inches in diameter
 2. Roof ventilation manway, 24-inches in diameter
 3. Pivoting aviation light bracket
 4. Pressure pallet vent/finial with removable cover
 5. Wet riser handrail

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6. Roof handrail
7. Balcony handrail

ARTICLE 3 – PROTECTION OF RESERVOIR FEATURES

3.01 *Areas to Protect*

- A. Care must be taken when performing abrasive blasting and painting so that adjacent areas are not damaged by these operations. Protect during blasting operations and do not coat over: vent or overflow screens, switches or outlets, control boxes, whether electrical, electronic, or mechanical, or miscellaneous antenna equipment. Provide sufficient protection and control measures to prevent damage to these or other peripheral equipment which requires protection.

3.02 *Inlet/Outlet Pipe Protection*

- A. Prevent entrance of dirt, sediment, blast media, residual water, and other debris into the inlet/outlet pipe. Prior to any work affecting the interior wet area, the Contractor shall insert into the pipe a heavy duty, inflatable flex-plug, such as those manufactured by Peterson Products Company of Fredonia, WI, or a rubber plug, such as those manufactured by Vanderlans and Sons, Inc. of Lodi, CA. Alternative methods of pipe protection shall be approved by the Engineer prior to installation.

3.03 *Protection of Antenna*

- A. It is anticipated that all cellular antennas and accompanying equipment, not permanently attached, will be removed from the reservoir prior to this contract. In the case that any City owned equipment cannot be removed from the tank and/or must remain active during the project, the Contractor is responsible for the protection of all antennas, cables, and associated equipment from damage during reconditioning. Protection may include the temporary removal of antennas and/or cables from their support mounts to blast and paint behind or beneath these items. All equipment cabinets and buildings must be adequately protected and vented to prevent dust contamination and overheating of equipment. Contractor shall coordinate all work with the antenna owners.

ARTICLE 4 – INSPECTION OF WORK

4.01 *Inspection of Work*

- A. Engineer and Owner's personnel shall have access to the work at all times. Contractor shall provide all necessary inspection equipment (at the discretion of the Engineer), labor, rigging, lighting and other equipment to facilitate this inspection.
- B. CONTRACTOR SHALL PERFORM THEIR OWN QUALITY CONTROL / QUALITY ASSURANCE PRIOR TO THE OWNER OR ENGINEER / INSPECTOR PERFORMING INSPECTIONS.**
- C. The Engineer reserves the right to inspect the work at any time for compliance with all requirements of the Specifications.
- D. The Engineer reserves the right to approve each phase of the work before further work may be done, to halt all work deemed to be improper or not in compliance with the Specifications, and to require the Contractor to promptly correct all improper practices or deficient work.
- E. Inspections may include wet and/or dry film thickness testing and visual surface inspection by the naked eye and/or a suitable magnifying instrument to detect runs, sags, drips, cracks, or other defects.
- F. Inspections may also include any other examination of the prepared surfaces or coating system, deemed necessary by the Engineer, including random destructive film thickness and

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coating adhesion checks. The entire interior wet area of the tank shall be inspected and tested, in attendance with the Engineer, to ensure a holiday free surface and curing in accordance with manufacturer requirements.

- G. Dry film thickness (DFT) readings of the coating are taken to provide reasonable assurance that the specified minimum DFT has been achieved. A minimum of five (5) separate spot measurements shall be made over every 100 square feet in area. Each spot measurement shall consist of an average of three (3) gage readings next to each other no further than six (6) inches apart. Each spot measurement must be within the specified minimum thickness. The single gage readings, however, making up the spot measurement are permitted to be no less than 80% of the specified minimum thickness.
- H. Any expenses incurred for corrective measures required as the result of improper practices and/or defective or deficient work shall be borne by the Contractor. The extent of these corrective measures shall be at the discretion of the Engineer. This includes costs for the Engineer to perform repeat inspection of defective or deficient work performed by the Contractor.
- I. Such inspection shall not relieve the Contractor from any obligation to construct the work strictly in accordance with the Specifications. Non-compliant work shall be removed and replaced by the Contractor at their expense.

ARTICLE 5 – VENTILATION AND SAFETY REQUIREMENTS

5.01 *Ventilation and Safety Requirements*

- A. The Contractor shall maintain adequate and continuous explosion-proof ventilation during surface preparation, coating operations and recoat and curing periods. This ventilation shall be of the suction type, installed on the roof ventilation manways or roof openings and shall be of sufficient capacity to maintain throughout the tank interior, a clear atmosphere that is well below explosive and toxic limits. All ventilation shall be in compliance with OSHA Regulations for Confined Spaces Entry.
- B. Ventilation of the interior areas shall be performed using dust collectors where feasible. Alternatively, ventilation fans may be used at roof manways if they have a minimum free air capacity of 6,200 CFM and include dust socks to prevent the escape and drift of dust generated by interior abrasive blasting and overspray. The use of pneumatic coppus/venturi air movers is not permitted.
- C. Arrange the ventilation system, including all fans and temporary ductwork, so that fresh air is drawn into the tank at the bottom and is exhausted at the top with an upward air movement pattern within the tank that permits no still air spaces to exist in any area. Give particular attention to floor level or lower spaces and pocket areas where heavier- than-air solvents and particulate matter are likely to accumulate. Said ventilation shall be sufficient for the removal of dust, coating fumes or other volatile gases and moisture to such an extent as to prevent any undesirable accumulation of any thereof to the hazard of the workers or the work.
- D. All electrical equipment and tools shall be explosion-proof and/or non-sparking and shall be maintained in good working order. Spray equipment shall be as recommended by, or acceptable to the coating manufacturer, and shall be thoroughly cleaned before and after use with the appropriate cleaning solvents.
- E. Contractor shall provide adequate explosion-proof lighting during all surface preparation, coating operations, and inspection. This lighting shall comply with AMPP/SSPC Technology Guide No. 12. Surface preparation and coating application require a minimum of 20-foot candles. 50-foot candles is recommended. For inspection work, a minimum of 50-foot candles is required, and 200-foot candles is recommended.

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- F. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures per manufacturer's product requirements.
- G. In the event heating devices are used, they shall be explosion-proof and do not exhaust sooty or oily residues, steam/moisture that would result in condensation, or any other contaminants into the tank.
- H. Prior to use, store all coating materials in a secure area that provides protection from weather and temperature beyond manufacturer's requirements. The area shall be maintained in a safe, neat, and clean manner and free from fire, explosion, or other hazards.
- I. All work shall be performed in a safe and orderly manner, all in compliance with the standards as prescribed by OSHA. The Contractor is directed to the Environmental Standards Section for the full scope of regulatory requirements. The Contractor shall comply with OSHA Regulations 29 CFR 1910.146 and Subpart AA for Confined Space Entry. Compliance with Confined Space Entry includes daily monitoring the confined space for four (4) gases and maintaining a daily confined space entry log. This daily confined space entry monitoring shall be for OSHA compliance for not only the contractor or subcontractor forces but shall also include monitoring for representatives from the Owner and Engineer. Any fines imposed on the Owner or Engineer by any regulatory agency because of the contractor's non-compliance with OSHA Regulations shall be paid or reimbursed by the Contractor.
- J. **THE USE OF ROPE RIGGING IS NOT PERMITTED.**
- K. The Contractor shall be responsible to secure all tank openings at the end of each day or at any time work is not being performed on the job site. In place of manway covers, the Contractor may use adequately secured and locked grating type covers to secure all openings. Gratings used for ventilation purposes shall be of at least ¼-inch diameter wire mesh with minimum 2-inch by 2-inch openings to allow adequate air passage.

ARTICLE 6 – MODIFICATION AND REPAIR WORK

6.01 *Modifications and Repairs*

- A. Items to be modified and repaired are described in Article 1 of this Section.
- B. All modifications and repairs shall be prepared and finished according to the requirements of Appendix C (AMPP/NACE Standard SP0178-2007) and AMPP/NACE Weld Preparation Designation "C", and as directed by the Engineer.
- C. Steel modifications shall be performed under the direction of the Engineer by a skilled, certified welder. Welders shall be certified in conformance with ASME Section IX for modifications subject to pressure and AWS D1.1 for all other modifications. Current copies of the welder's modification appropriate certificates shall be submitted to the Engineer and Owner.
- D. No welding over coated steel surfaces is permissible. The Contractor is responsible to adequately remove, either by abrasive blasting or power tool cleaning, all coatings before welding.
- E. Welding Procedures:
 - 1. All field welding shall be in accordance with ASME Section VIII, Division 1 and AWWA D100.
 - 2. The location, type, size, and length of all welds shall be as shown on approved shop drawings. Welding shall not be performed outside the parameters of AWS D1.1.
 - 3. The contractor shall submit all welding procedures to the engineer for approval prior to the preconstruction meeting.
 - 4. Weld testing:

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- a. Owner may perform additional weld testing at their expense. However, in the event that work is defective, Contractor shall pay for additional tests and shall repair all defective work according to these Specifications.
- 5. Any additional repair work uncovered by the Contractor or Engineer during reconditioning shall not be executed until change orders are approved by the Owner and Contractor. Refer to General Conditions for details involving increases or decreases in the amount of work.

ARTICLE 7 – UNFAVORABLE WEATHER CONDITIONS

7.01 *Surface Preparation*

- A. No surface preparation or coating application work shall be done under unfavorable weather conditions, unless the work is adequately protected, and then only with the specific approval of the Engineer.
- B. The Engineer intends to routinely monitor wind direction, wind speed, air temperature, steel temperature, dewpoint and relative humidity to ensure Contractor compliance with the listed conditions.
- C. The Contractor shall record the wind direction, winds speed, dewpoint, relative humidity, air temperature, and surface temperature a minimum of three (3) times per day for each day of the construction schedule or each day the Contractor is on site performing the work. The Contractor's daily log shall be submitted to the Engineer or Inspector for comparison with the Inspector's data.
- D. As necessary to achieve the required climate conditions for the work, the Contractor shall provide heating, dehumidification, or other forced curing methods.

ARTICLE 8 – CONTAINMENT PLAN

8.01 *Coatings*

- A. The interior wet and exterior coatings are NOT classified as lead-based paint. Testing indicates the interior wet coating contains 0.004 percent lead content and the exterior coating contains less than the lower limit of quantitation up to 0.223 percent lead content. See Appendix D: Paint Chip Test Results.
- B. It is not anticipated abrasive blasting will generate hazardous waste. The use of a proprietary admixture, such as "Blastox" (TM), to the selected abrasive is optional to ensure satisfactory toxicity characteristics testing. All work shall be performed in accordance with state and federal regulations.

8.02 *Containment Plan*

- A. The Contractor shall be fully responsible to provide full containment of the exterior abrasive blasting operation, including a top bonnet or cover to prevent the drift of fugitive particulate matter onto adjacent property, streets, or structures. In conjunction with full containment the Contractor shall be responsible to provide adequate dust collection or negative air to the containment system to prevent the emissions release to the environment and to provide a reduction of dust exposure to workers.
- B. During sandblasting and coating operations, the Contractor shall provide adequate protection and containment to prevent damage to adjacent structures and property by the operations.
- C. Raise aviation warning obstruction light above the level of the containment and top bonnet for the duration of the exterior containment.
- D. At a minimum, Contractor shall submit a containment plan outlining all the details including drawings, equipment, tarps, structural loading calculations, wire rope sizes, hoist line pull

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capacity, dust collection equipment, and if the Contractor chooses to employ any wet abrasive blasting methods and the inhibitors to be used during those blasting operations. Tarps used for containment shall be solid screens, UV-stabilized, and weather and solvent resistant.

- E. The containment plan must be submitted for review by the Engineer seven (7) days before the preconstruction meeting. Work on the project will not begin without a reviewed containment plan.
- F. The Contractor shall be fully responsible to provide a 100% impervious ground coverage in all areas adjacent to the tank for the purpose of ensuring the recovery of (a minimum) 95% of all spent abrasive, removed paint, and debris from the abrasive blast operation. Ground cover shall consist of reinforced plastic or canvas tarps sufficiently overlapped and secured to prevent contamination.
- G. As an option, the Contractor may employ a wet abrasive blasting operation, in conjunction with full containment of the exterior to control fugitive particulate matter. The Contractor expressly agrees to abide by the decision of the Engineer or Owner in accepting or rejecting the Contractor's wet abrasive blasting plan.
- H. The Contractor expressly agrees to obey the verbal or written direction and instruction of the Engineer, Inspector, or Owner's representative in determining when the exterior abrasive blasting operation may proceed or must be suspended due to excessive winds, or drift of dust, spent abrasive and paint chips outside the area of containment.

ARTICLE 9 – SURFACE PREPARATION

9.01 *Blast Cleaning*

- A. Use proper equipment and commercially available abrasives when blast cleaning to produce a profile of 2.0 to 3.5 mils, or as recommended by the coating manufacturer. Abrasives shall be chemically washed and dried, dust, dirt and fines free, resistant to fracture (shattering), and contain no leachable contaminants. Do not reuse sand or flint abrasives.
- B. The use of recyclable abrasive, such as steel grit, is acceptable. Waste generated by this method of abrasive blasting may be considered hazardous waste and as such must be disposed of accordingly. If using recyclable abrasive, extra care must be taken to ensure all abrasive is removed from the reservoir surfaces and any surrounding surfaces or equipment that may result in the abrasive contaminating the coating.
- C. Abrasives shall be free from oil and within a pH range of 6.0 – 8.0. Use of admixtures may result in higher pH results. Random field testing of the abrasive shall be done by the Inspector according to ASTM D7393-07 and AMPP/NACE standards to ensure the abrasive meets these requirements.
- D. Additional care is required during cleanup to ensure all abrasive residual is removed prior to coating application. Stop abrasive blast cleaning in sufficient time to remove all dust, spent abrasive, and other foreign matter from and around all blasted surfaces (including rigging and equipment). Allow the atmosphere to clear before any coating application is performed. Removal of these materials shall be by clean brush or suitable industrial vacuum with particular attention given to welds, pockets, difficult to access and overhead areas. Prepared surfaces will be randomly tested by the Inspector, according to ISO 8502.3 Clear Tape Test.
- E. For either SSPC-6 or SSPC-10 classification, ALL PAINT, oil, grease, dust, dirt, mill scale, rust, oxides, corrosion products, or any other foreign matter on the surface must be removed prior to new coating application to comply with AMPP standards.
- F. All compressed air equipment shall be fitted with suitable after coolers, oil, and moisture separators to prevent contamination of abrasives and/or blasted surfaces. Separators shall be of the continuous bleeding or automatic dumping type. To prevent contamination of

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abrasives and/or blasted surfaces, install separators between the compressor air outlet and the blasting pot compressed air inlet.

- G. Take precautions during all blasting operations to prevent over-blast damage to previously applied-coated areas.
- H. Daily blasting operations shall consist of removal of a 1-inch to 3-inch border around the previously primed steel where adjacent steel has not yet been primed.
- I. The Inspector shall perform a daily test to ensure cleanliness of the compressed air supply. This test will be performed in the following manner. Clean white blotter paper shall be held no more than 18-inches from the air supply, downstream of moisture and oil separators. The air supply is to be directed at the blotter paper for approximately (2) two minutes. The paper is then visually examined for signs of oil and moisture. Clean paper indicates the test has passed. Failure to pass the test will be justification for denying blasting to be performed until a passing test can be achieved.

ARTICLE 10 – COATING HANDLING

10.01 *Coating Handling*

- A. All materials shall be brought to the job site in the original sealed and labeled containers of the coating manufacturer and shall be subject to inspection by the Engineer.
- B. The Contractor shall provide adequate job site security and storage for all coating materials, thinners, rags, and waste materials, per the manufacturers shipping and storage requirements, state and local regulations, these Specifications, and as directed by the Engineer.

ARTICLE 11 – COATING APPLICATION

11.01 *Coatings Application*

- A. Coating application shall be performed within manufacturer's required conditions. Proceed with surface preparation and coating application only when air and surface temperatures are between the manufacturers recommended minimum and maximum surface temperatures, and surface temperature is at least 5 degrees above wet bulb air temperature reading. Coating shall not be applied to contamination, dust, wet or damp surfaces, and shall not be applied in rain, snow, fog, or mist. No coating shall be applied when it is expected that the relative humidity will exceed the manufacturer's maximum allowable humidity or when the air temperature is expected to drop below the manufacturer's minimum allowable temperature as identified in the coating manufacturer's product requirements. If working conditions are questionable, the Engineer shall make the decision and the Contractor shall accept Engineer's interpretation as final and binding.
- B. Each coat shall be applied at the specified rate and in the manner recommended by the coating manufacturer. Each coat shall be applied with uniform coverage with no streaks, laps, runs, sags, holidays, or brush marks showing and shall be well worked into the surface. Coatings shall be inspected and approved by the Owner's representative, Engineer, or Inspector after the Superintendent or Crew Foreman has performed the initial quality control inspection. Any deficiencies shall be corrected prior to the next coat application.
- C. When a thinning admixture is necessary, only the products of the manufacturer furnishing the coating, and for that particular purpose, shall be allowed. All thinning shall be done strictly in accordance with the manufacturer's instructions, as well as with the full knowledge and approval of the Inspector.
- D. When an accelerator admixture is necessary, only the products of the manufacturer furnishing the coating, and for that particular purpose, shall be allowed. All accelerating shall be done

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strictly in accordance with the manufacturer's instructions, as well as with the full knowledge and approval of the Inspector.

- E. Dry film thickness will be measured per SSPC-PA 2. Measurements of wet mil thickness will be accomplished by use of the "Nordson" wet film gage or such other gage as the Engineer might determine satisfactory for the application.
- F. Each coat shall be allowed to dry and/or cure thoroughly before either the next coat is applied or the tank is placed into service, as required by the coating manufacturer's written requirements.
- G. After primer has cured and been approved by the Inspector, ensure one uniform stripe coat is carefully applied by brushing around all roof structural components, rivet heads, seams, welds, bolt assemblies, scab marks, plate overlaps, joints, and other irregularities in the surfaces. Stripe coat shall consist of color variation from the primer (typically color of next coat application). Stripe coat shall not be applied by roller application that sheds any roller hairs into the coating.
- H. When coating is applied by spraying, use suitable equipment (nozzles, air supply, etc.) as recommended by the coating and equipment manufacturer as being best suited or necessary for production of quality work.
- I. Exterior spray painting is permitted only within the containment. However, the finish coat shall be applied by brush or roller only. The Contractor shall take all necessary precautions to avoid paint fallout and any resulting damage to adjacent structures and property by the operations.
- J. For brush application, the coating shall be brushed on in one direction, and then smoothed in a direction at right angles to produce as uniform thickness of coating and as complete a coverage as possible. Such two-directional brushing shall be considered as "one coat" within the meaning of these specifications.
- K. During primer application, leave a 3-inch to 4-inch border of uncoated, blasted steel at the end of each workday.
- L. A prime coat shall be applied within eight (8) hours after abrasive blasting. When the humidity exceeds 80%, the prime coat shall be applied within four (4) hours after blasting. If conditions are questionable, the Engineer shall make the decision, and the Contractor shall accept his interpretation as final and binding.

ARTICLE 12 – SURFACE COATINGS

- 12.01 The reservoir shall be coated with products provided by a single manufacturer. **All coatings in contact with raw, partially treated, or treated potable water shall comply with state regulations and be NSF 61 product certified.** The coating of the entirety of the interior of the storage volume must be NSF 61 product certified. NSF 61 product certification must be valid at the time of construction. As of January 1, 2023, in order to be NSF 61 product certified, coatings and finishes must meet the most current health effects criteria of NSF 600 for xylenes, toluene and ethylbenzene. Compliance with the Reduction of Lead in Drinking Water Act (2014) is required, and all applicable products must meet the lead-free requirements and conform to NSF 372.
- 12.02 Coating schedules for the following manufacturers are specified in this Article.
 - A. Manufacturers or approved equal.
 - 1. Tnemec Company, Inc.; www.tnemec.com
 - 2. Sherwin-Williams Company; www.sherwin-williams.com
- 12.03 *Colors*
 - A. Primary colors shall be chosen from manufacturer's color charts. Contractor to coordinate color selection with the Owner prior to ordering.

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1. Interior wet finish color shall be white.
2. Exterior intermediate coat colors to be one shade lighter than the subsequent coat.
3. Exterior finish color shall be Tank White and applied as a single tone appearance.

12.04 *Non-Skid Walkway*

- A. The non-skid walkway shall consist of one (1) additional finish coat applied by roller within the handrail, or as determined by the Engineer, after applying the finish coat to the reservoir roof. Abrasive, size #20-40, shall be incorporated (mixed) thoroughly into the paint and applied evenly.
 1. Manufacturers or approved equal.
 - a. US Silica; www.ussilica.com
 - b. Red Flint; www.redflint.com

12.05 *Manufacturer's Fluoropolymer Warranty Coverage*

- A. Upon completion of the project, the Contractor shall provide to the Owner all required information and forms provided by the coating manufacturer regarding warranty coverage of the applied exterior fluoropolymer coating system. The warranty shall be effective for a minimum of 15-years beginning on the substantial completion date and provide the following:
 1. No checking, cracking, blistering or delamination from the substrate.
 2. Not allow the substrate to corrode in excess of 1% of the surface area being coated as measured in accordance with ASTM D 610-25 "Standard Test Method for Evaluation Degree of Rusting on Painted Surfaces" for a period of five (5) years from substantial completion date or corrode in excess of an additional 0.5% per year for balance of the warranty coverage period.
 3. No change in color more than 5 DE Hunter units. Determined in accordance with ASTM D2244 by comparing the affected exposed coating cleaned with water and a soft cloth with unexposed original Project color standards maintained by the manufacturer and the Owner.
 4. No loss of gloss exhibited exceeding 24 units as measured by a glass meter in accordance with ASTM D523-89 with 60-degree geometry.
 5. No chalking exceeding a rating of 8 as measured in accordance with ASTM D4214, Method A.

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TOPEKA, KANSAS
MONTARA SOUTH WATER TOWER

TNEMEC COMPANY, INC.

INTERIOR WET AREA:

Zinc / NSF 61 Certified
Epoxy

Coat Application	Product	DFT Range	Cumulative DFT
Primer	Series 91-H2O Hydro-Zinc	2.5 - 3.5	2.5 - 3.5
Stripe	Series N140 Pota-Pox Plus		-
Finish	Series 21 Epoxoline	14.0 - 16.0	16.5 - 19.5
	or		
	Series 22 Epoxoline	30.0 - 38.0	32.5 - 41.5
	or		
	Series FC22 Epoxoline*	30.0 - 38.0	32.5 - 41.5

*(in multi-coat application; minimum DFT is 16.0
mils per coat)

EXTERIOR AREA:

Zinc / Epoxy / Urethane /
Fluoropolymer

Coat Application	Product	DFT Range	Cumulative DFT
Primer	Series 91-H2O Hydro-Zinc	2.5 - 3.5	2.5 - 3.5
Stripe*	Series N140 Pota-Pox Plus		-
Intermediate 1	Series N140 Pota-Pox Plus	4.0 - 6.0	6.5 - 9.5
Intermediate 2	Series 1095 or 73 Endura- Shield	3.0 - 5.0	9.5 - 14.5
Finish	Series 700 HydroFlon	2.0 - 3.0	11.5 - 17.5
Finish Non-Skid**	Series 700 HydroFlon		-

* (required if Intermediate 1 and 2 are spray applied)

** (applied after finish coat to designated areas)

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TOPEKA, KANSAS
MONTARA SOUTH WATER TOWER

SHERWIN-WILLIAMS COMPANY

INTERIOR WET AREA:

Zinc / NSF 61 Certified
Epoxy

Coat Application	Product	DFT Range	Cumulative DFT
Primer	Corothane 1 Galvapak Zinc 2K	2.0 - 4.0	2.0 - 4.0
Stripe	Macropoxy 5500 LT		-
Finish	Sherplate 600	14.0 - 16.0	16.0 - 20.0
	or		
	Dura-Plate UHS	30.0 - 38.0	32.0 - 42.0
	or		
	Sherplate PW*	30.0 - 38.0	32.0 - 42.0

*(in multi-coat application; minimum DFT is 12.0
mils per coat)

EXTERIOR AREA:

Zinc / Epoxy / Urethane /
Fluoropolymer

Coat Application	Product	DFT Range	Cumulative DFT
Primer	Corothane 1 Galvapak Zinc 2K	2.0 - 4.0	2.0 - 4.0
Stripe*	Macropoxy 5500 LT		-
Intermediate 1	Macropoxy 5500 LT	4.0 - 6.0	6.0 - 10.0
Intermediate 2	Acrolon 218HS	3.0 - 5.0	9.0 - 15.0
Finish	FluoroKem HS 100	2.0 - 3.0	11.0 - 18.0
Finish Non-Skid**	FluoroKem HS 100		-

* (required if Intermediate 1 and 2 are spray applied)

** (applied after finish coat to designated areas)

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ARTICLE 13 – STRUCTURE MATERIALS AND PRODUCTS

13.01 *Caulk*

- A. Caulk shall be a single component, moisture cured urethane, non-sag, UV resistant, paintable, and NSF 61 approved. Caulk shall be provided by the following manufacturer or approved equal.
- B. Manufacturer or approved equal.
 - 1. Sika Corporation; Sikaflex® - 1A; www.usa.sika.com

13.02 *Gasket Material*

- A. Flat style gaskets shall be approximately ¼-inch thick and made of neoprene or EPDM with a durometer hardness of 50 on the Shore A scale.
 - 1. Manufacturer or approved equal.
 - a. Industrial Rubber and Supply; www.industrialrubberandsupply.com
- B. Round style gaskets shall be ¾-inch, round, solid core and made of Nitrile (Buna-N) rubber with a durometer hardness of 50 on the Shore A scale.
 - 1. Manufacturer or approved equal.
 - a. Allied Rubber & Supply Co.; www.alliedrubber.com
- C. For flat cover ventilation manways, roof vents, and similar applications, use a flat style gasket 1/8-inch thick and made of neoprene or EPDM with a durometer hardness of 50 on the Shore A scale.
 - 1. Manufacturer or approved equal.
 - a. Industrial Rubber and Supply; www.industrialrubberandsupply.com
- D. For hinged roof manways, use U-channel ¼-inch neoprene material, 9/16-inch height.
 - 1. Manufacturer or approved equal.
 - a. DK Hardware; www.dkhardware.com

13.03 *Aviation Red Obstruction Lighting System*

- A. Replace the existing aviation light with a steady-burn LED double obstruction light conforming to FAA AC 150/5345-43G, type L-810 LED or Military Specification L-7830. Include replacement of the photoelectric cell.
 - 1. Manufacturer or approved equal.
 - a. Hughey and Phillips; www.hugheyandphillips.com
 - b. Flash Technology; www.flashtechology.com

13.04 *Self-Close Swing Gate*

- A. The gate shall self-close when not in use and be manufactured for outdoor use with a UV resistant power coat finish and universal design for right or left mounting. It shall accept mounting to round, square, or angle steel up to 2-inches wide or diameter.
- B. All gate components shall be zinc w/polyester coated, powder coated, galvanized, or stainless-steel, utilize bearings for swing assembly, swing only in one direction, and be adjustable in width to a minimum dimension of 16-inches. Handrail shall be fabricated with gate width in consideration.
 - 1. Manufacturer or approved equal.
 - a. ERECTASTEP Single-Door Aluminum for 16 - 36 in.; #11792; www.yellowgate.com

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- b. ULINE; Safety Swing Gate – 24 - 40 inch; www.uline.com

13.05 *Ladder Anti-Climb Cover*

- A. Contractor shall provide and fully install a lockable climb preventative cover that attaches to the ladder to prevent ladder use when closed.
- B. Cover shall be fabricated from 8-foot tall, 1/8-thick aluminum with all supporting hardware hot-dipped galvanized.
- C. Cover shall be installed a minimum of 10-feet above grade or at the bottom of the ladder, whichever is greater and be able to cover over the cable style safety climb when in the closed and locked position.
- D. Cover shall be fabricated so it can open in either direction when attached to the ladder and equipped with a front lock hasp.
 - 1. Manufacturer or approved equal.
 - a. R B Industries; Ladder Gate®; www.laddergate.com; www.emperenterprises.com

13.06 *Concrete Grout*

- A. Grout shall be non-shrink with minimum 3,000psi compressive strength and working temperature range of 40 degrees to 90 degrees Fahrenheit. It shall be manufactured for uses such as grouting under machinery and equipment to maintain precise alignment, support of tanks and vessels, grouting of structural steel and precast concrete, and grouting of anchors and dowels. Mix and place grout per manufacturer's instructions.
 - 1. Manufacturer or approved equal.
 - a. Five Star Products, Inc.; Five Star Grout; www.fivestarproducts.com

ARTICLE 14 – DISINFECTION OF RESERVOIR

14.01 *Disinfection of Reservoir*

- A. In preparation for placing the reservoir into service, the Contractor shall remove all dirt, litter, and other debris, and clean all surfaces. If necessary, rinsing shall be performed by a Contractor provided power or jet truck using a minimum 2-inch diameter sanitary hose. Coordinating with the Owner, the inlet pipe shall be filled and flushed to remove any remaining debris or stagnant water. This process will continue until the discharge from the reservoir is clear. Upon completion the Owner or Engineer shall inspect and approve the area.
- B. Contractor shall disinfect by using a 200-ppm solution of chlorine sprayed over the entire interior surface area in accordance with the Specifications and AWWA C652-11, Section 4.3: Chlorination Method 2.
- C. The disinfected surfaces shall remain in contact with the chlorine solution for at least 30 minutes. Following this, potable water shall be admitted.
- D. Coordinating with the Owner, fill the reservoir with water to overflow capacity.
- E. The Owner shall take samples of the water after the retention period to test for bacteria, chlorine residual, and volatile organic compound (VOC) presence. Owner will determine method of sampling.
 - 1. Samples are tested according to the following standards:
 - a. Bacteria: No coliform bacteria present.
 - b. VOC: No taste or smell of "paint" to the water.
- F. If the water is considered not safe after testing, additional disinfecting and testing shall be performed by the Contractor at his expense until the tank is tested safe for use as part of a

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potable water supply system. This includes the fees associated with replacement water to fill the reservoir and fees associated with the additional disinfection and re-testing as identified in this Section.

ARTICLE 15 – PROJECT CLEAN UP

15.01 *Clean up*

- A. The Contractor shall at all times keep the premises free from accumulations of waste material or rubbish caused by employees or work. Clean up abrasive material or rubbish on a daily regular schedule as directed by the Engineer. All unneeded construction equipment shall be removed from the site and all damages repaired expeditiously.
- B. The Contractor shall perform intermittent or periodic clean-up of adjacent grounds to prevent the accumulation of blast media and debris caused by their operations. This shall include but not be limited to, sidewalks, streets, driveways, yards, and rooftops.
- C. The Contractor shall be fully responsible to recover, remove and dispose of properly all spent abrasives, removed coatings, spent solvents, unused paint, paint containers and other non-specific waste in accordance with current state and federal regulation, included but not limited to the 1976 Resource, Conservation and Recovery Act (RCRA) and its amendments, specifically the 1984 Hazardous and Solid Waste Amendments to RCRA. Disposal of "empty containers" shall be in accordance with RCRA 40 CFR 261.7 and state regulations. **In addition, the Contractor shall submit for review and approval their TCLP sampling plan.** The sampling plan and quality control measures must be in conformance with current EPA test procedures and current PCA regulations. Proper documentation of this process is required by EPA regulations and this Specification. The Contractor is also responsible to provide proper documentation per RCRA/EPA and state regulations for identifying, tracking and disposal of the waste generated. At a minimum, this documentation shall include a Waste Evaluation Form, Industrial Solid Waste Tracking Form, Landfill Special Waste Tracking Form, and letter of acceptance of the waste by the appropriate landfill or disposal site.
- D. Under this Agreement, the Contractor shall be responsible for compliance with local, state, and federal regulations concerning emissions or disposal of solid, particulate, liquid, or gaseous matter resultant from cleaning, painting or other operations. Compliance with this provision shall be accomplished without direct supervision from the Engineer or Owner. The Owner shall not grant additional compensation for changes in the law, regulations, or interpretations of said laws or regulations. The burning of trash, paper or wood on the job site is not permitted. Unless otherwise provided by these Specifications, the Contractor is responsible for all containing, shielding, waste retrieval and other precautions required by any regulatory agency. **Any fines imposed on the Owner or Engineer by any regulatory agency because of the contractor's non-compliance with environmental regulations shall be paid or reimbursed by the Contractor.**
- E. **The Contractor shall perform timely laboratory testing of waste materials generated on the job site to determine its specific classification for proper disposal in accordance with this Specification and all applicable state and federal regulations. A minimum of four (4) TCLP tests shall be performed, or as required by regulations, on both the interior and exterior waste materials. TCLP testing shall be for all eight (8) specific constituent concentrations (eight (8) heavy metals/inorganics) as shown in 40 CFR 261.24, Table 1 or as amended by regulation.**
- F. The Owner may perform laboratory testing of waste materials to verify test results taken by the Contractor. In the event of discrepancies in test results and the resultant classification of waste materials, it is agreed by the parties to this Contract that the Engineer shall perform independent testing and shall determine all questions in relation to the classification of waste materials. **The Contractor will be held liable for all supplementary testing, engineering and associated contract administration costs.**

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- G. On or before the completion of work, the Contractor shall, unless otherwise directed in writing, remove all temporary works, tools and machinery or other construction equipment. Remove all rubbish and leave the premises and project area affected by the operation in a neat and restored condition satisfactory to the Owner and Engineer.

15.02 *Restoration*

A. Pavement:

- 1. Contractor is responsible for repair, to Owner's satisfaction, of any pavement damage resulting from the Work.

B. Turf:

- 1. Disturbed areas shall be dressed with topsoil as necessary, seeded, mulched, and fertilized. Contractor responsible for establishing turf coverage to minimum 75%.
- 2. Using suitable cultivating equipment, ensure the areas to be seeded have been tilled to a depth of at least 3-inches to loosen soils that may have been compacted by heavy equipment used during the project.
- 3. Immediately prior to seeding, rake the soil clean of all stones larger than 5/8-inch, sticks, roots, clods, and any other debris or surface hinderance. The area shall be reasonably smooth, blend with the surrounding contours, and be graded to not permit standing water.

C. Seeding:

- 1. Seed mixture shall be tolerant to the sun/shade conditions of the site and blended according to seed manufacturer's recommended percentages for the region. Apply at the rate of 100 pounds per acre. Dormant seeding is not permitted.

D. Mulch:

- 1. Type 1 straw mulch, disc-anchored in place, or straw erosion-control blanket shall be applied immediately after seeding has been completed. If disc-anchoring mulch, apply at a rate of approximately 2 tons per acre. If using erosion-control blanket, staple blanket over all disturbed, seeded areas according to manufacturer instructions.

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ARTICLE 1 – SCOPE

1.01 *Regulatory Requirements*

- A. This specification covers the requirements for worker protection, environmental protection, and the handling of debris generated from industrial paint removal.
1. It is consistent with the intent of these contract documents to describe those performance standards, often broad and general in nature, required to provide a complete and operating system. It shall be the responsibility of the Contractor to familiarize themselves fully regarding the detailed needs and requirements of any and all regulatory agencies having jurisdiction over this work. These detailed needs and requirements shall be accommodated, as part of the Work, in every manner just as if they were prescribed in these Contract Documents.
 2. The Contractor shall comply with and have documented Confined Entry Space Procedures available at the reservoir site at all times, as required by OSHA 29 CFR 1910.146. The Contractor shall also comply with any state and/or local requirements which are more restrictive than the federal requirements.
 3. The Contractor shall comply with safe working practices for cleaning, burning, welding, and handling non-lead-based coated steel, and all health and safety regulations and requirements of federal, state, and local health regulatory agencies, and any Safety Data Sheets (SDS). This compliance shall be accomplished without supervision from the Engineer, or other direct or indirect agents of the Engineer. All rigging attachments present on the reservoir shall be carefully inspected by the Contractor immediately prior to use. The Contractor assumes all responsibility for use of any existing or added attachments.
 4. Compliance with local, state, and federal regulations concerning emissions or disposal of solid, particulate, liquid, or gaseous matter as a result of the reconditioning, or other operations under this Agreement shall be the responsibility of the Contractor. This compliance shall be accomplished without supervision from the Engineer. No additional compensation for changes in the laws, regulations, or the interpretation thereof shall be granted by the Engineer. No burning of trash on the site shall be permitted. **Any fines imposed on the Engineer by any regulatory agency as a result of the Contractor's noncompliance with environmental regulation shall be paid or reimbursed by the Contractor.**

1.02 *Requirements*

- A. Provide required personnel, equipment, and materials, to recondition the reservoir and perform the project according to applicable codes and standards.

ARTICLE 2 – REFERENCE DOCUMENTS

2.01 *Publications*

- A. The publications listed below form a part of these Contract Documents to the extent referenced. The publications are referred to in the text by the basic designation only.
1. Code of Federal Regulations:
 - a. **29 CFR 1910** – “Occupational Safety and Health Standards” (General Industry Standards)
 - b. **29 CFR 1910.20** – “Access to Employee Exposure and Medical Records”
 - c. **29 CFR 1910.137** – “Respiratory Protection”
 - d. **29 CFR 1910.146** – “Permit Required Confined Space”

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- e. **29 CFR 1910.1200** – “Hazard Communication”
- f. **29 CFR 1926** – “Safety and Health Regulations for Construction” (Construction Industry Standards)
- g. **29 CFR 1926.20** – “Construction Industry, General Safety and Health”
- h. **29 CFR 1926.21** – “Safety Training”
- i. **29 CFR 1926.28** – “Personal Protective Equipment”
- j. **29 CFR 1926.51** – “Sanitation”
- k. **29 CFR 1926.55** – “Gases, Vapors, Fumes, Dusts and Mists”
- l. **29 CFR 1926.57** – “Ventilation”
- m. **29 CFR 1926.103** – “Respiratory Protection”
- n. **29 CFR 1926.200** – “Accident Prevention Signs and Tags”
- o. **29 CFR 1926.353** – “Ventilation and Protection in Welding, Cutting, and Heating”
- p. **29 CFR 1926.354** – “Welding, Cutting and Heating in Way of Preservative Coatings”
- q. **40 CFR 50** – “National Primary and Secondary Ambient Air Quality Standards”
- r. **40 CFR 50.6** – “Air Quality Standards for Particulate Matter”
- s. **40 CFR 60** – “Standards of Performance for New Stationary Sources, Appendix A, Test Methods”
- t. **40 CFR 117** – “Determination of Reportable Quantities for Hazardous Substances”
- u. **40 CFR 122** – “EPA Administered Permit Program: The National Pollutant Discharge Elimination System”
- v. **40 CFR 261** – “Identification and Listing of Hazardous Waste”
- w. **40 CFR 262** – “Standards Applicable to Generators of Hazardous Waste”
- x. **40 CFR 263** – “Standards Applicable to Transporters of Hazardous Waste Treatment, Storage, and Disposal Facilities”
- y. **40 CFR 265** – “Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities”
- z. **40 CFR 268** – “Land Disposal Restrictions”
- aa. **40 CFR 300** – “National Oil and Hazardous Substances Pollution Contingency Plan”
- bb. **40 CFR 302** – “Designation, Reportable Quantities and Notification”
- 2. American Society for Testing and Materials
 - a. **ASTM D-3335** – “Test Method for Low Concentrations for Lead, Cadmium, and Cobalt in Paint by Atomic Absorption Spectroscopy”
- 3. Environmental Protection Agency (EPA) Publications
 - a. **SW-846** – “Test Methods for Evaluating Solid Waste-Physical/Chemical Methods”
 - b. **EPA Method 1311** – “Toxicity Characteristics Leaching Procedure”
- 4. Association of Materials Protection and Performance (AMPP), formerly The Society for Protective Coatings (SSPC)
 - a. **SSPC-Guide 61 (CON)** – “Guide for Containing Debris Generated During Paint Removal Operations”

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5. Corps of Engineers (COE)
 - a. **COE EP-1165-2-304** – “1976 Flood Plain Regulations for Flood Plain Management”

ARTICLE 3 – APPLICABLE CODES AND STANDARDS

3.01 *Minimum Standard of Quality*

- A. As a minimum standard of quality and workmanship, reconditioning work is to comply with the latest edition of the following codes and standards insofar as they are applicable:
 1. American Water Works Association (AWWA) Standards
 2. American Welding Society (AWS) Standards
 3. American Petroleum Institute (API) Standards
 4. American Institute of Steel Construction (AISC)
 5. ASTM International Standards
 6. Occupational Safety and Health Administration (OSHA) Standards
 7. American National Standards Institute (ANSI) Standards
 8. United State Environmental Protection Agency (USEPA)
 9. United States Resource Conservation and Recovery Act (US RCRA)
 10. National Electric Code (NEC)
 11. Association of Materials Protection and Performance (AMPP), formerly National Association of Corrosion Engineers (NACE) International
 12. Underwriter’s Laboratories (UL)
 13. Resource Conservation and Recovery Act (RCRA)
 14. Building Official and Code Administrators (BOCA)
 15. American Society of Civil Engineers (ASCE)

The above codes and standards are hereinafter referred to as “Reference Specifications”.

ARTICLE 4 – EXECUTION

4.01 *Procedures*

- A. Contractor shall comply with all regulations and requirements listed or inferred by this Section. The Contractor shall pay all other fees and obtain all necessary permits that may be required for the prosecution of their work as called out in the Specifications.

ARTICLE 5 – DEFINITIONS

5.01 *Lead-Containing Paint*

- A. A paint is classified as lead-containing if it contains 0.5 percent or 5,000 PPM lead or greater. This can be determined from prior knowledge of the coating (certification from the coating manufacturer) or through laboratory testing in accordance with ASTM D-3335.

5.02 *Hazardous Waste*

- A. Paint debris is classified as hazardous due to the characteristic of toxicity, if after testing by Toxicity Characteristic Leaching Procedure (TCLP), the leachate contains any of the elements in the concentrations listed below (or greater):

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1. Arsenic 5.0 mg/l
2. Barium 100.0 mg/l
3. Cadmium 1.0 mg/l
4. Chromium 5.0 mg/l
5. Lead 5.0 mg/l
6. Mercury 0.2 mg/l
7. Selenium 1.0 mg/l
8. Silver 5.0 mg/l

Other elements and characteristics can cause a material to be hazardous as defined in 40 CFR 261 and must be considered.

5.03 *Sediment*

- A. Soil and other debris that have eroded and have been transported by runoff water or wind.

5.04 *Solid Waste*

- A. Rubbish, debris, garbage, and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.

5.05 *Rubbish*

- A. Combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.

5.06 *Debris*

- A. Combustible and noncombustible wastes such as ashes and waste materials resulting from construction or maintenance and repair work, bituminous materials, leaves, and tree trimmings.

5.07 *Chemical Wastes*

- A. This includes salts, acids, alkalis, herbicides, pesticides, organic chemicals, oily waste petroleum, and spent products which serve no purpose.

5.08 *Sanitary Waste*

- A. Sewage waste characterized as domestic sanitary sewage. Garbage refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

ARTICLE 6 – PROTECTION OF NATURAL RESOURCES

6.01 *Preserving the Natural Resources*

- A. Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified.

1. Temporary Construction

- a. Remove traces of temporary construction facilities such as work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other signs of construction. Grade temporary roads, parking areas, and similar temporarily used areas to conform with surrounding contours.

2. Water Resources

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- a. Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water. Surround all temporary fuel oil or petroleum storage tanks with a temporary earth berm of sufficient size and strength to contain the contents of the tanks in the event of leakage or spillage.
3. Control and Disposal of Solid and Sanitary Wastes
 - a. Pick up solid wastes, and place in containers which are regularly emptied. Do not prepare, cook, or dispose of food on the project site. Prevent contamination of the site of other areas when handling and disposing of wastes. On completion, leave the areas clean. Control and dispose of waste.
4. Disposal of Rubbish and Debris
 - a. Dispose of rubbish and debris in accordance with the requirements specified.
5. Garbage Disposal
 - a. Place garbage in approved containers, and move to a pickup point or disposal area, where directed.

ARTICLE 7 – DUST CONTROL

7.01 *Dust Control*

- A. Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. All in compliance with EPA rules for control of fugitive particulate matter.

ARTICLE 8 – CRITERIA FOR HANDLING OF HAZARDOUS WASTE AND REPORTING RELEASES

1. The Owner is considered the generator of all hazardous waste for this project. The Contractor is responsible for all costs associated with disposing of all hazardous waste.
2. Sampling and Test of Debris:
 - a. Representative samples of the debris shall be selected in accordance with the requirements of SW-846 and tested by TCLP in accordance with Appendix 11 of CFR 261. A minimum of four (4) samples per waste stream shall be taken. The contractor is responsible for all sampling and testing. The name and qualifications of the sampling and testing firms shall be provided to the Owner at least 30 days after work is completed. Results of testing will be provided to the Owner immediately upon receipt.
3. Hazardous Waste: If testing of the debris in Section 8.2 shows the waste to be hazardous, the following requirements shall apply:
 - a. Site Storage and Handling:
 - 1) The contractor shall pay strict attention to the requirement of 40 CFR 262 and 40 CFR 265 for the on-site handling of debris.
 - 2) Special attention shall be given to the time of storage, amount of material stored at any one time, use of proper containers, personnel training, and confirmation that as EPA identification number will be obtained.
 - 3) Paint debris shall not be placed on the unprotected ground and shall be shielded to prevent dispersion of the debris by wind or rain water.
 - 4) The contractor shall provide preparedness, prevention, and contingency plans (PCP) in accordance with 40 CFR 265 Sub part C and Sub Part D for the steps to be taken in the event of an unplanned release or emergency.

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- 5) Any evidence of improper storage shall be cause for immediate shutdown of the project until corrective actions are taken.
- b. Transportation and Disposal of Debris:
 - 1) The contractor shall arrange to have the debris transported from the site in accordance with the requirements of 40 CFR 263, and disposed of properly in accordance with 40 CFR 264 and 40 CFR 268 including the necessary notifications and certifications with shipments.
 - 2) Only licensed transporters and disposal facilities shall be used.
 - 3) Signed manifests shall be returned to the Owner to verify that all steps of the handling and disposal process have been completed properly.
4. Clearance Testing:
 - a. The contractor shall thoroughly vacuum, wash, or otherwise decontaminate reusable items prior to removal from the project site. Items include, but are not limited to, equipment, containment materials, ground covers, scaffolding, and change and shower facilities. If adequate cleaning is not possible, the materials shall be treated as waste and tested and disposed of properly, at the contractor expense.
5. Reportable Releases:
 - a. All reportable releases shall be reported to the appropriate authorities and the Owner.
 - 1) Other Releases:
 - i) Any release that is in violation of any federal, state, or local regulation that is to be reported, shall be so reported in accordance with the proper regulation. The Contractor shall immediately notify the Owner of any reportable release.

ARTICLE 9 – CONTRACTOR’S WRITTEN PROGRAMS

9.01 *Detailed Written Programs*

- A. The contractor shall provide detailed written programs for each of the items below, a minimum of 30 days prior to beginning work.
 1. Collection of Debris Plan:
 - a. The contractor shall provide a detailed written plan for the methods to be employed for the collection of debris.
 2. Programs for the Protection of the ambient air, soil, and water:
 - a. The contractor shall submit the following testing and evaluation programs that will be used to confirm that the work does not violate federal, state, and local regulations.
 - 1) Ambient Air Quality:
 - i) The contractor shall submit a written program for air monitoring at the project site to confirm that fugitive dust emissions do not exceed the specified criteria.
 3. Worker Protection Program:
 - a. The contractor shall submit a worker protection program in accordance with 29 CFR 1926.62 as required in Paragraph 6.0, including the certified laboratories that will be used for the analysis.

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4. Handling, Disposal, and Analysis of Debris:
 - a. The Contractor shall provide the following:
 - 1) Sampling and Testing of Debris:
 - i) Written procedures that will be followed for the sampling and testing of debris to determine if it is hazardous waste. Debris includes, but is not limited to paints, spent abrasives, and stripper solutions.
 - 2) Transportation:
 - i) Written confirmation that proper transportation of the debris will be accomplished in accordance with the requirements of 40 CFR 263, including the name of the licensed Transporters.
 - 3) Disposal:
 - i) Written confirmation that the debris will be treated and disposed of in accordance with the requirements of 40 CFR 2674 and 40 CFR 268. The program shall provide assurance that the debris is handled properly from cradle to grave, provide the name of the licensed disposal facility, and include a schedule for the submittal of the completed manifests to the owner.
 - 4) Clearance Testing:
 - i) The contractor shall provide written programs for the decontamination of reusable items prior to removal from the project site, or for the proper testing and disposal of the materials if decontamination is not possible or desirable.
5. Reportable Releases:
 - a. CERCLA Release:
 - 1) The Contractor shall submit a plan for reportable release in accordance with 40 CFR 300 and 40 CFR 302.
6. Safety and Health Protection:
 - a. The contractor shall submit a written program for safety and health protection plan based on the applicable requirements of 29 CFR 1926, 29 CFR 1910, OSHA, and NIOSH guidelines. This program shall include, at a minimum:
 - 1) Defined responsibilities for the person who shall document worker training in industrial hygiene and safety.
 - 2) Evidence that the program has been reviewed by an industrial hygiene and safety professional.
 - 3) Provisions of exposure monitoring.
 - 4) Details of hazardous materials compliance plans, including provisions for:
 - i) Protective clothing
 - ii) Housekeeping Activities
 - iii) Hygiene
 - iv) Medical Surveillance
 - v) Training
 - vi) Record Keeping

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7. Worker and Environmental Protection:
 - a. The contractor shall submit a written program for worker and environmental protection plan for hazardous materials.
 - 1) Environmental protection plan.
 - 2) Hazardous waste material's management and disposal plan.
8. Monitoring:
 - a. The contractor shall submit a written procedure specifying monitoring criteria and a resulting action plan for workers.
9. Decontamination:
 - a. The contractor shall submit a written decontamination plan for workers and equipment. This plan shall include, at a minimum:
 - 1) Placement of protocol vestibules and equipment needed within the vestibule, such as vacuums, negative air, and showers.
 - 2) Establish an appropriate method of decontamination.
 - 3) Establish procedures to prevent contamination of clean areas.
 - 4) Establish emergency response procedures for accidents and/or spills.
 - 5) Establish methods to minimize direct worker contact with contaminants during removal of personal protective clothing and equipment.
 - 6) Establish procedures for disposing of contaminated clothing and related equipment that cannot be completely decontaminated.

APPENDIX A

PHOTOGRAPHS



Photo No. 1
Overall view of the tower



Photo No. 2
View of interior wet roof and stiffeners
Vent collar and CP handholes visible



Photo No. 3
Roof coating conditions



Photo No. 4
Roof coating conditions

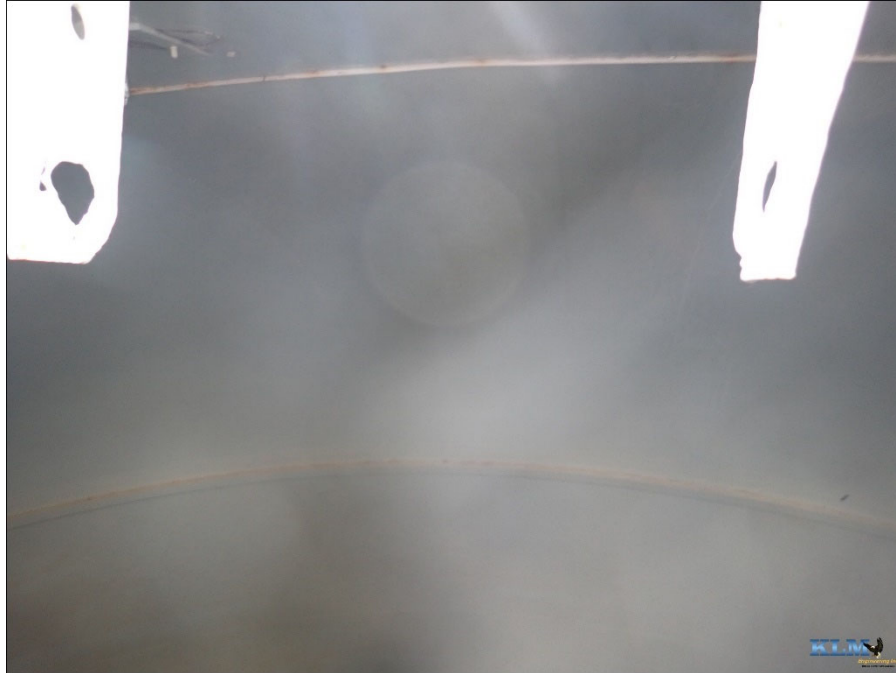


Photo No. 5
Brackets welded to roof

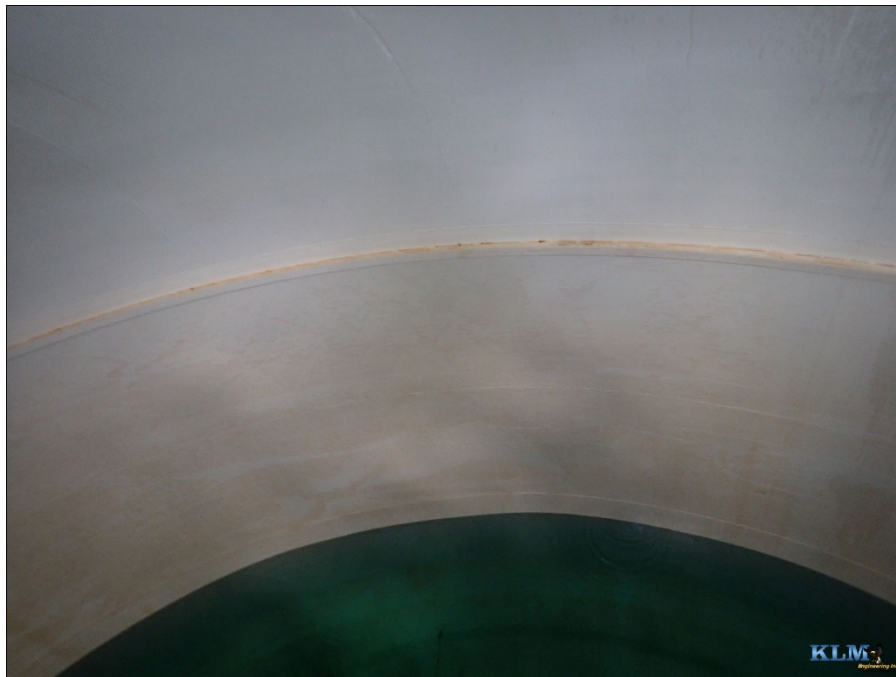


Photo No. 6
View of upper torus and shell
Stiffener ring visible



Photo No. 7
View of upper torus and shell
Stiffener ring visible

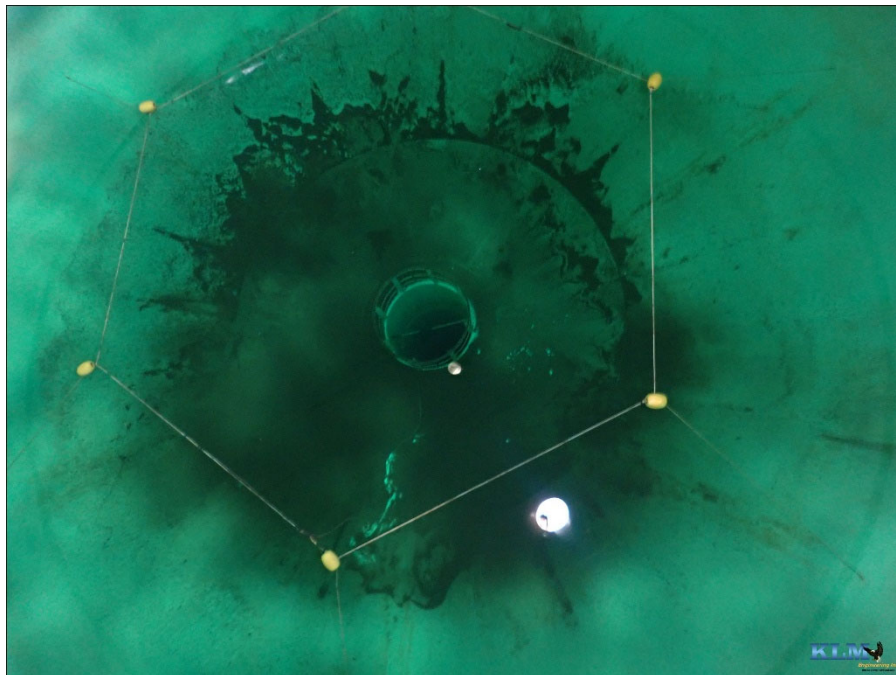


Photo No. 8
View of water line
Cathodic protection system visible

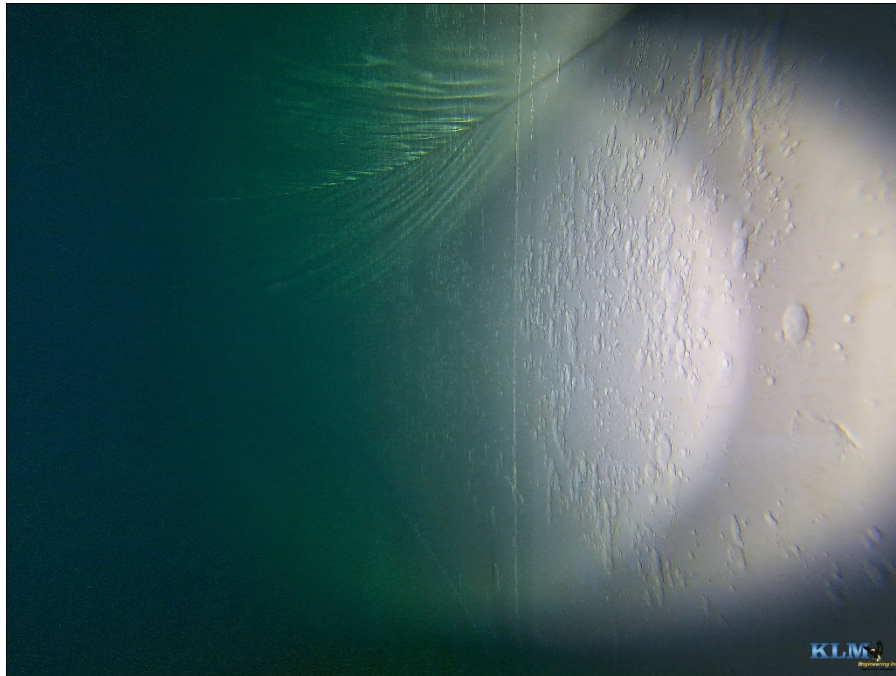


Photo No. 9
Shell coating conditions

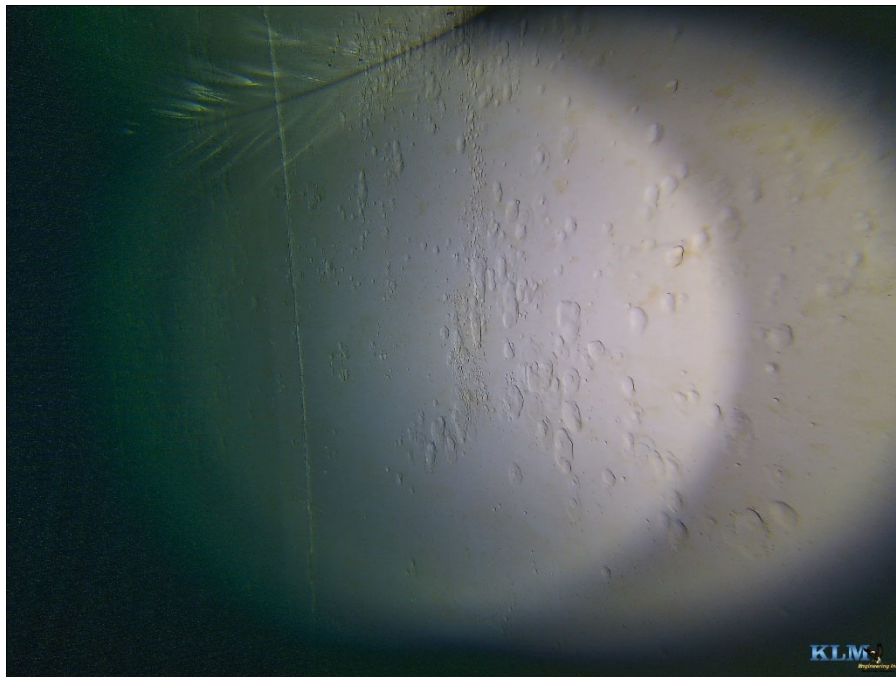


Photo No. 10
Shell coating conditions

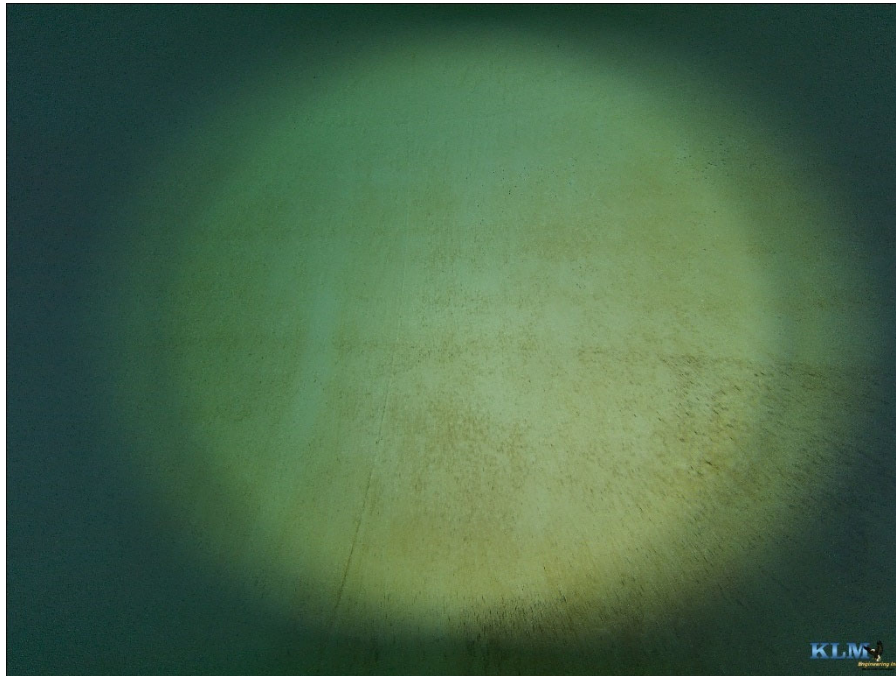


Photo No. 11
Shell coating conditions



Photo No. 12
Lower torus coating conditions

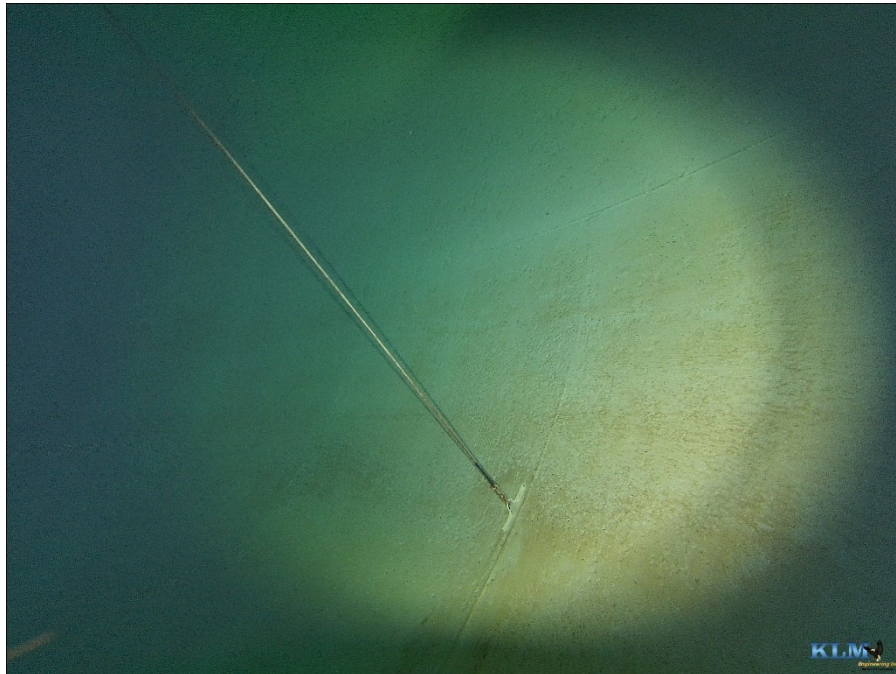


Photo No. 13
Typical cathodic protection system clip



Photo No. 14
Lower torus and bowl coating conditions

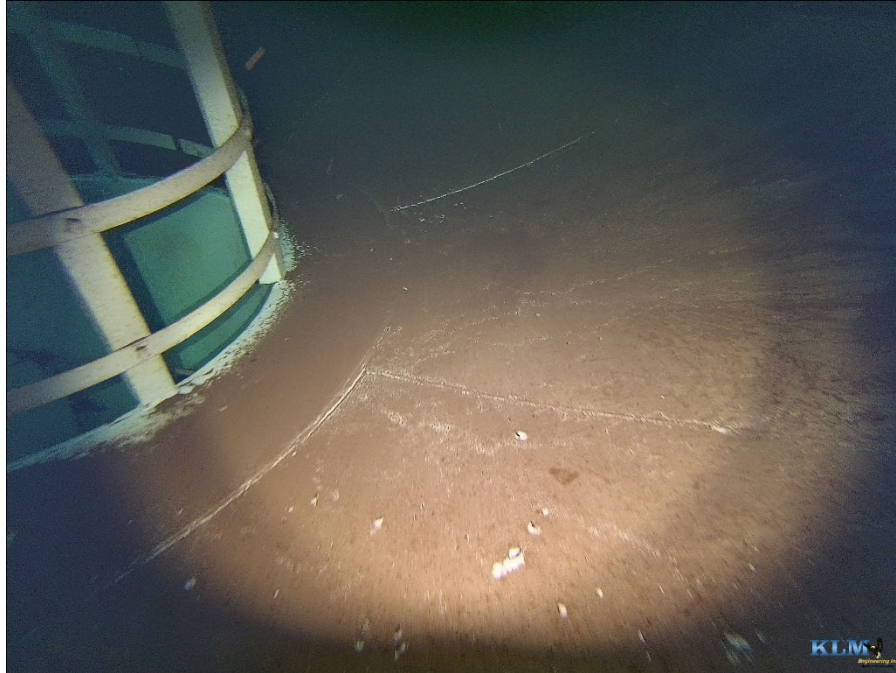


Photo No. 15
Bowl conditions

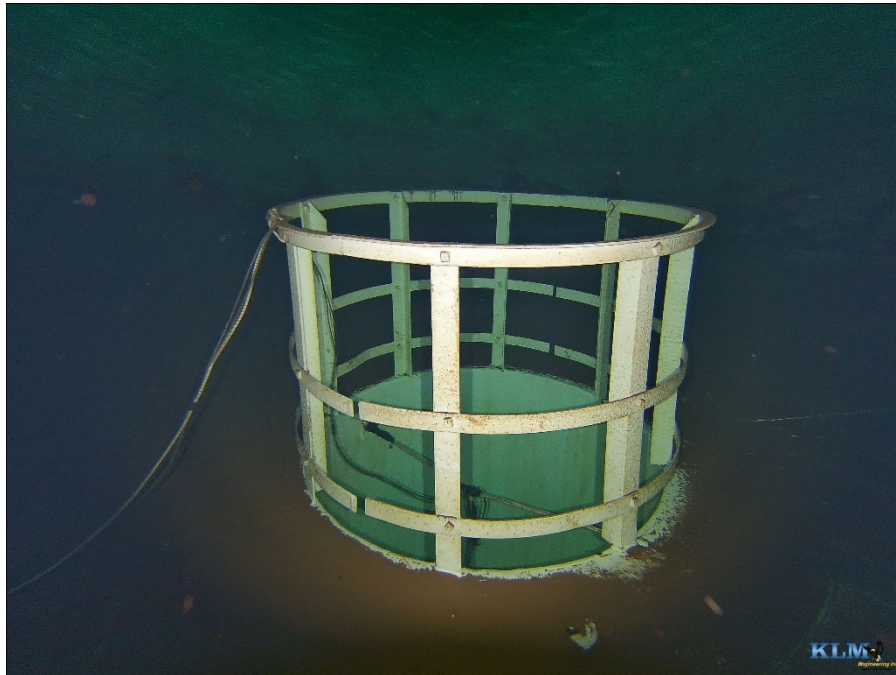


Photo No. 16
Guardrail at top of wet riser



Photo No. 17
View of roof



Photo No. 18
Antenna mount assembly on roof



Photo No. 19
Antenna mount assembly on roof



Photo No. 20
View of antennas



Photo No. 21
View of antennas
Aviation light visible



Photo No. 22
Finial vent



Photo No. 23
Underside of vent cover



Photo No. 24
Vent collar and platform



Photo No. 25
Underside of vent platform



Photo No. 26
Cable mounting brackets



Photo No. 27
Roof coating conditions



Photo No. 28
Roof coating conditions



Photo No. 29
Wet access manway and roof ladder



Photo No. 30
View of roof and upper torus
Conduit visible



Photo No. 31
View of roof and upper torus
Cathodic protection system handholes visible



Photo No. 32
Shell ladder



Photo No. 33
Balcony and handrail



Photo No. 34
Balcony and handrail



Photo No. 35
Column ladder



Photo No. 36
View of water compartment



Photo No. 37
Column ladder and underside of balcony



Photo No. 38
Wet riser to bowl connection



Photo No. 39
View of bowl, wet riser, and columns



Photo No. 40
Antenna cables and mounts on column



Photo No. 43
View of electrical equipment and mounts



Photo No. 44
Bottom of wet riser
Manway visible



Photo No. 45
Valve pit access



Photo No. 46
Column and footing



Photo No. 47
Column and footing



Photo No. 48
Column and footing



Photo No. 49
Column, overflow pipe, and footing



Photo No. 50
Overflow pipe outlet and splash pad



Photo No. 51
Overflow pipe screen



Photo No. 52
Site conditions

APPENDIX B

DRAWINGS



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KLM PROJECT NO.

KLM DRAWING NO. 1c

SUBJECT

AVIATION OBSTRUCTION LIGHT BRACKET

DRAWN BY

JCC

DATE

SEPTEMBER 2023

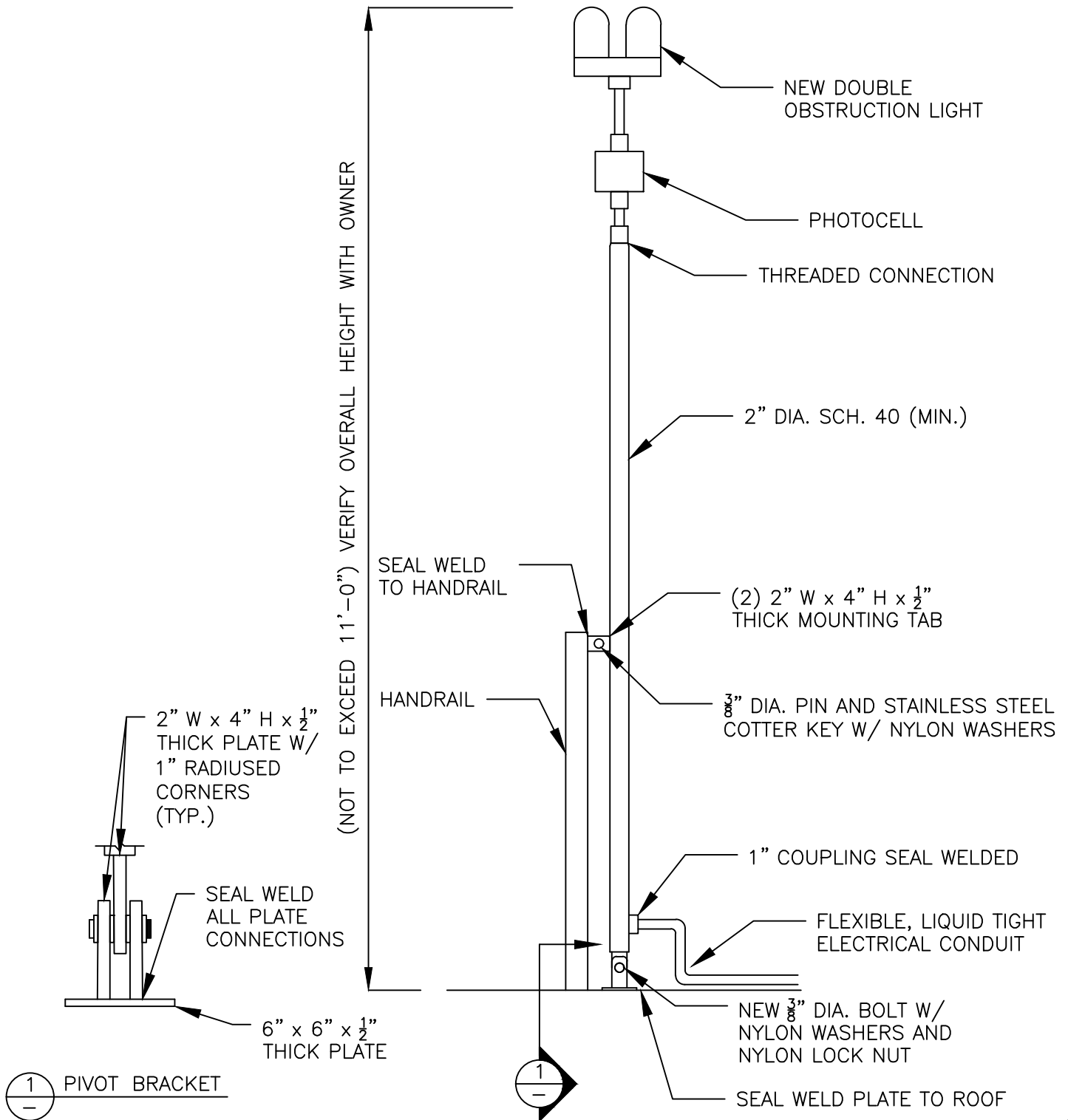
CHECKED BY

BJF

DATE

NOTES:

1. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
2. ALL WELDING SHOWN IS TO BE DONE BY CONTRACTOR.
3. SEAL ALL THREADED CONNECTIONS.
4. INSTALL OBSTRUCTION LIGHT AT VERTICAL HANDRAIL POST.





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KLM PROJECT NO.

KLM DRAWING NO. 4b

SUBJECT

PEDESTAL STAND-OFF BRACKET

DRAWN BY

BJF

DATE

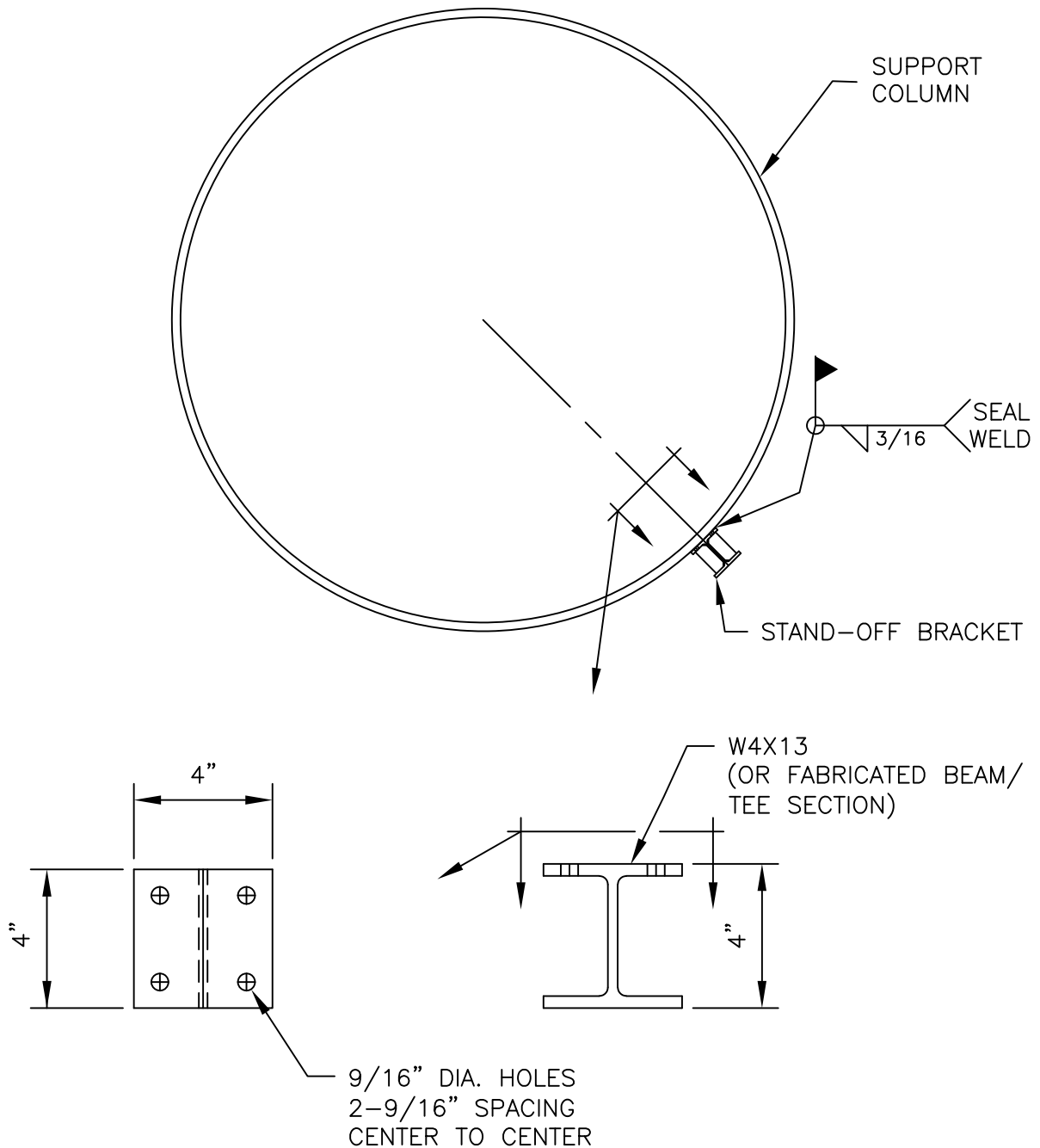
JANUARY 2025

CHECKED BY

DATE

NOTES:

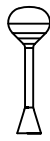
1. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
2. ALL WELDING SHOWN IS TO BE DONE BY CONTRACTOR.
3. LOCATION OF STAND-OFF BRACKETS BY CONTRACTOR WITH APPROVAL OF ENGINEER.
4. HOLE SIZE AND LOCATION BY CONTRACTOR.
5. SEAL WELD ALL SEAMS OF THE BRACKET.





KLM ENGINEERING, INC.

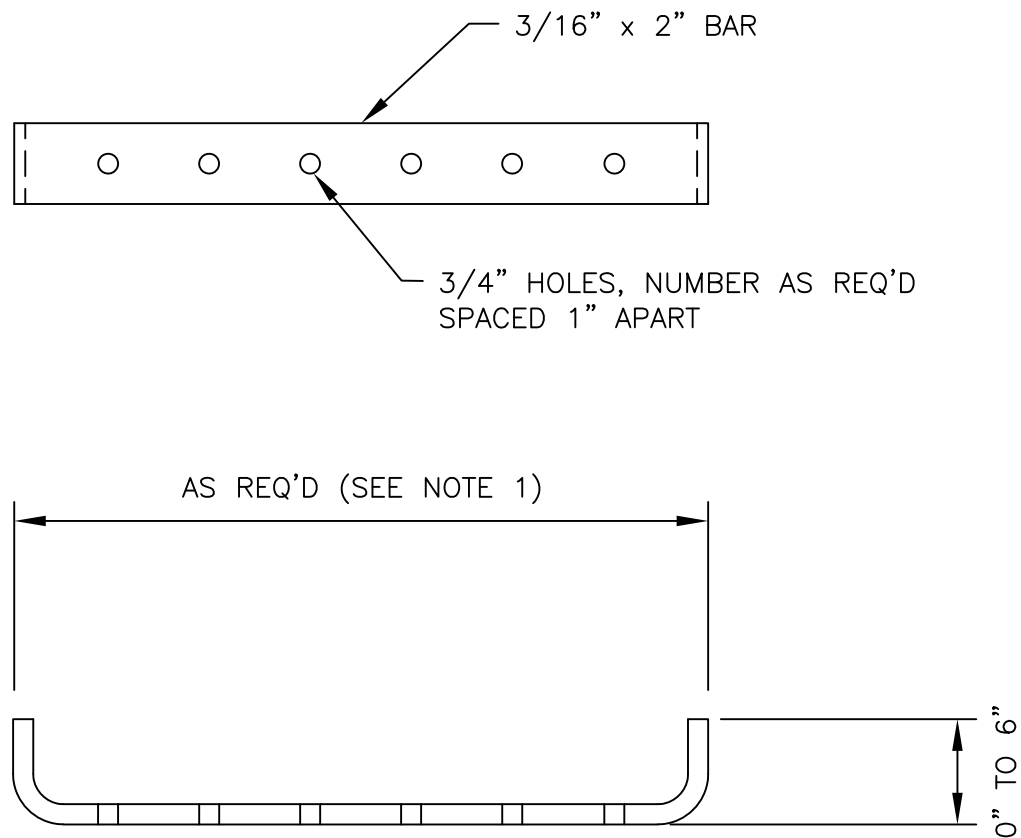
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KLM PROJECT NO.		KLM DRAWING NO. 4d
SUBJECT	CABLE MOUNTING BRACKET	
DRAWN BY	JJT	DATE MARCH 2018
CHECKED BY		DATE

NOTES:

1. NUMBER AND LENGTH OF BRACKETS PER ANTENNA PROVIDER AND APPROVED BY ENGINEER.
2. LOCATION OF BRACKETS PER ANTENNA PROVIDER AND APPROVED BY ENGINEER.
3. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
4. BRACKET WELDS TO TANK PLATES SHALL BE SEALED ALL AROUND.



CABLE MOUNTING BRACKET



KLM ENGINEERING, INC.

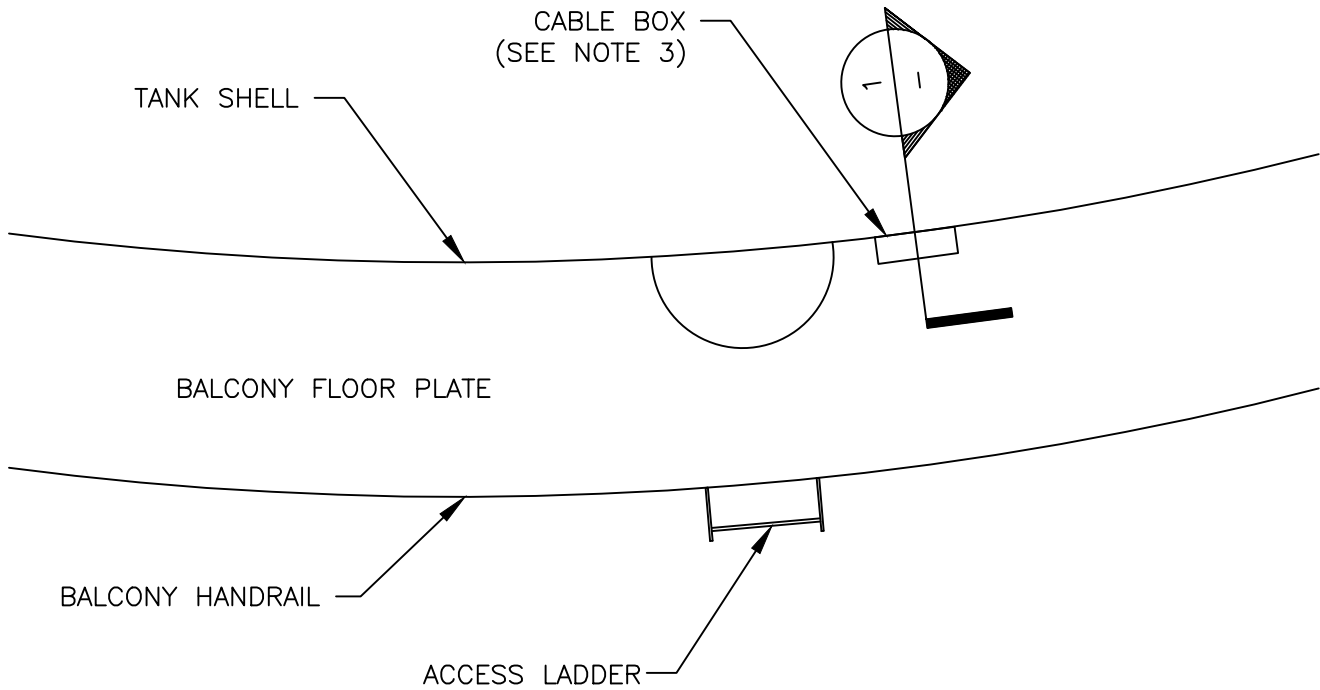
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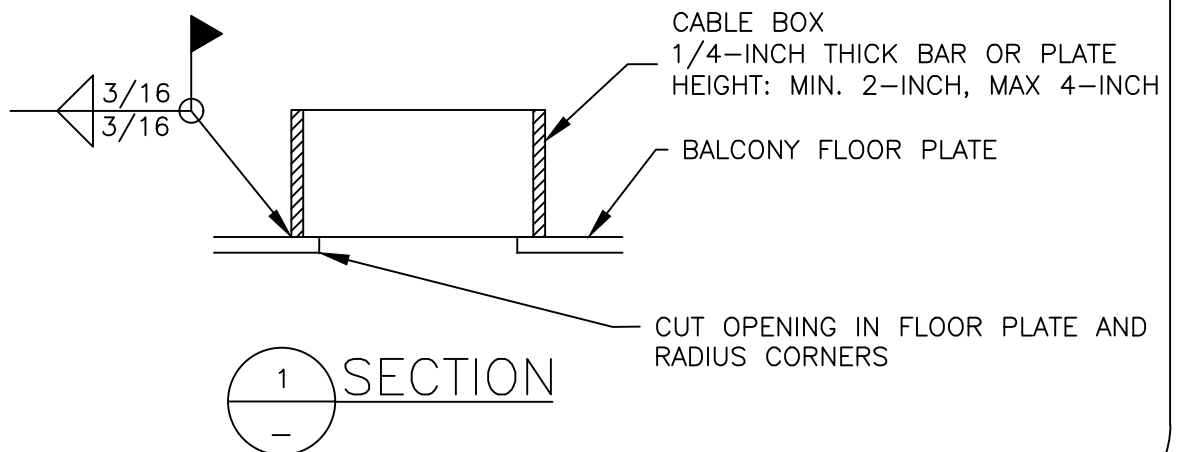
KLM PROJECT NO.	KLM DRAWING NO. 5d
SUBJECT BALCONY MODIFICATION CABLE PENETRATION	
DRAWN BY	DATE FEBRUARY 2026
CHECKED BY	DATE

NOTES:

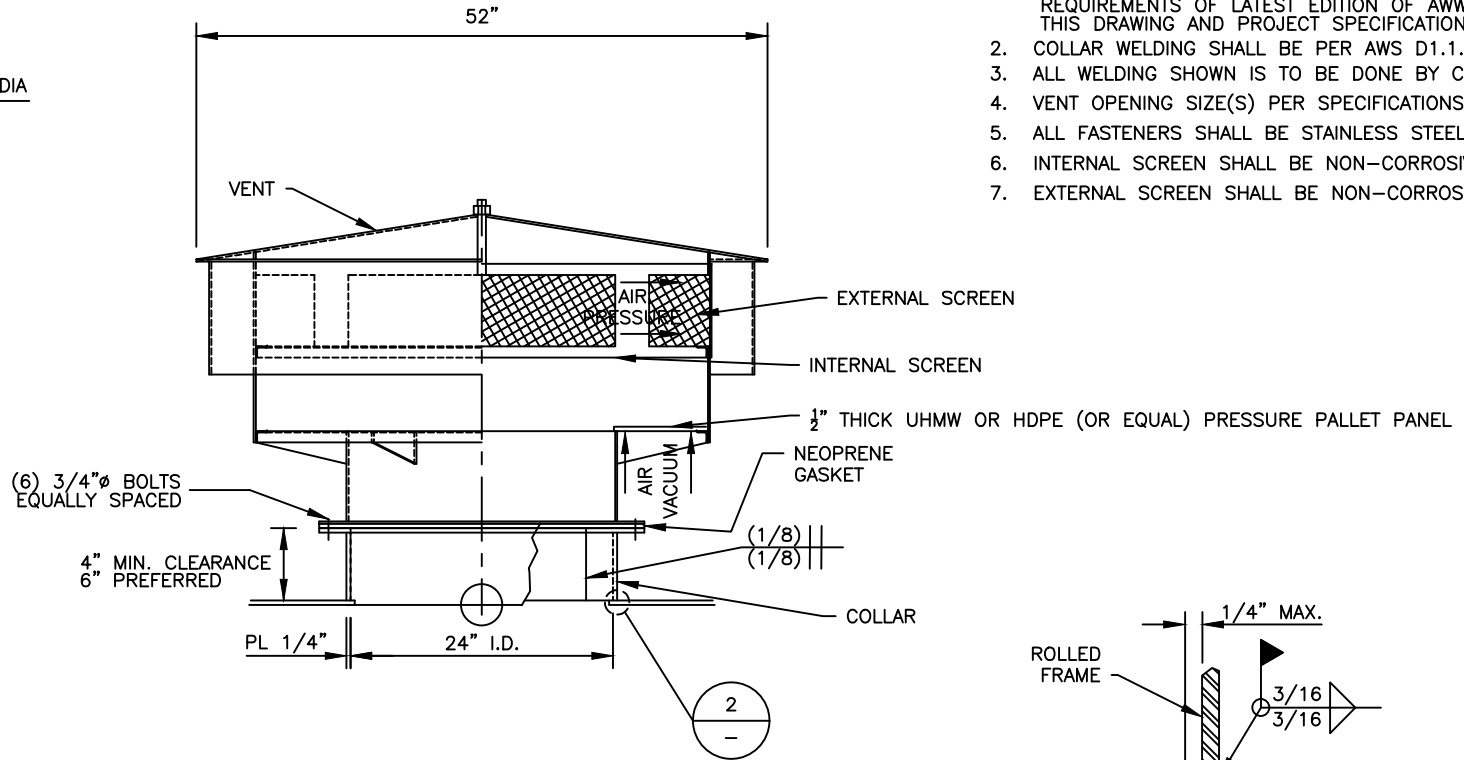
1. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
2. ALL WELDING SHOWN IS TO BE DONE BY CONTRACTOR.
3. SIZE AND LOCATION OF CABLE BOX DETERMINED IN FIELD AND APPROVED BY ENGINEER.



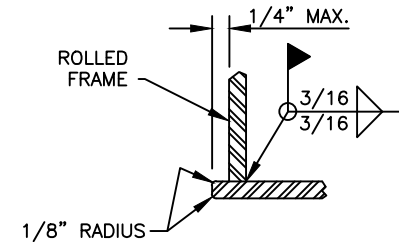
PLATFORM PLAN



VENT SIZE	COVER DIA
36	78
30	65
24	52
20	43
18	39
16	35
12	26



1
-
ELEVATION



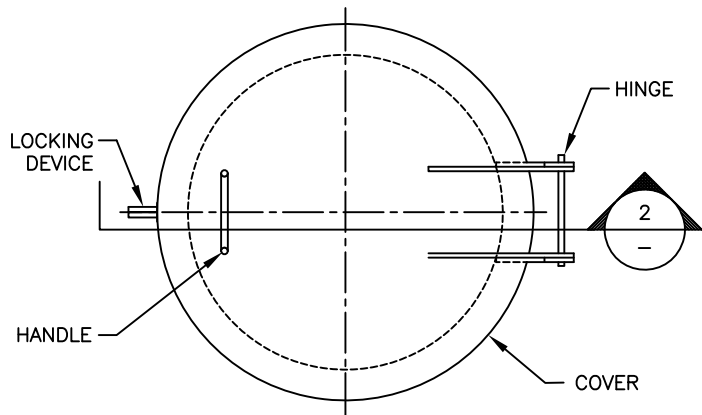
2
-
DETAIL-OPTION

- NOTES:**
1. VENT MATERIAL SHALL BE ALUMINUM AND FABRICATED PER FABRICATORS OPTION BUT MUST MEET REQUIREMENTS OF LATEST EDITION OF AWWA, THIS DRAWING AND PROJECT SPECIFICATION.
 2. COLLAR WELDING SHALL BE PER AWS D1.1.
 3. ALL WELDING SHOWN IS TO BE DONE BY CONTRACTOR.
 4. VENT OPENING SIZE(S) PER SPECIFICATIONS, 24" SHOWN.
 5. ALL FASTENERS SHALL BE STAINLESS STEEL.
 6. INTERNAL SCREEN SHALL BE NON-CORROSIVE #24 MESH.
 7. EXTERNAL SCREEN SHALL BE NON-CORROSIVE #4 MESH.

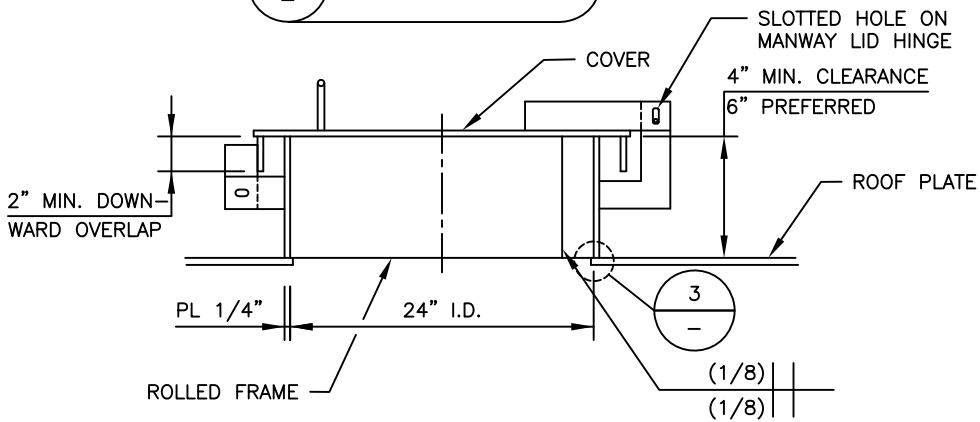
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ALUMINUM
 PRESSURE PALLET FINIAL VENT

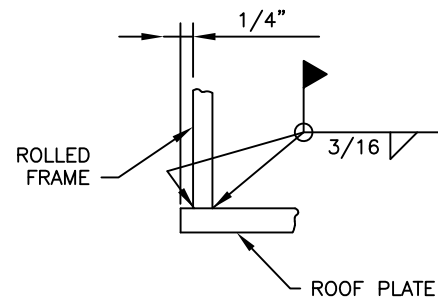
DATE: JANUARY 2022
 KLM DRAWING NO.
 8a



1 PLAN VIEW



2 SECTIONAL ELEVATION



3 DETAIL

NOTES:

1. ALL MATERIALS SHALL BE ASTM A36 STEEL.
2. CONSTRUCTION SHALL MEET THE REQUIREMENTS OF AWWA D100 LATEST EDITION.
3. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
4. AN AIR TIGHT GASKET SHALL BE PROVIDED BETWEEN THE COVER AND FRAME WHERE REQUIRED BY LOCAL AND/OR STATE CODE REQUIREMENTS.

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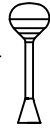
24"Ø VENTILATION ROOF MANWAY

DATE	JANUARY 2020
KLM DRAWING NO.	10a



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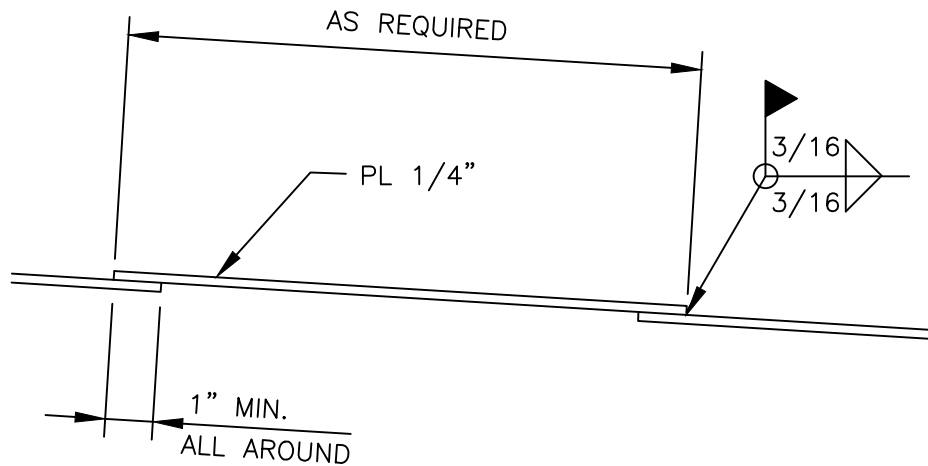
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KLM PROJECT NO.	KLM DRAWING NO. 12a
SUBJECT CATHODIC PROTECTION HOLE COVER	
DRAWN BY	DATE JANUARY 2018
CHECKED BY	DATE

NOTES:

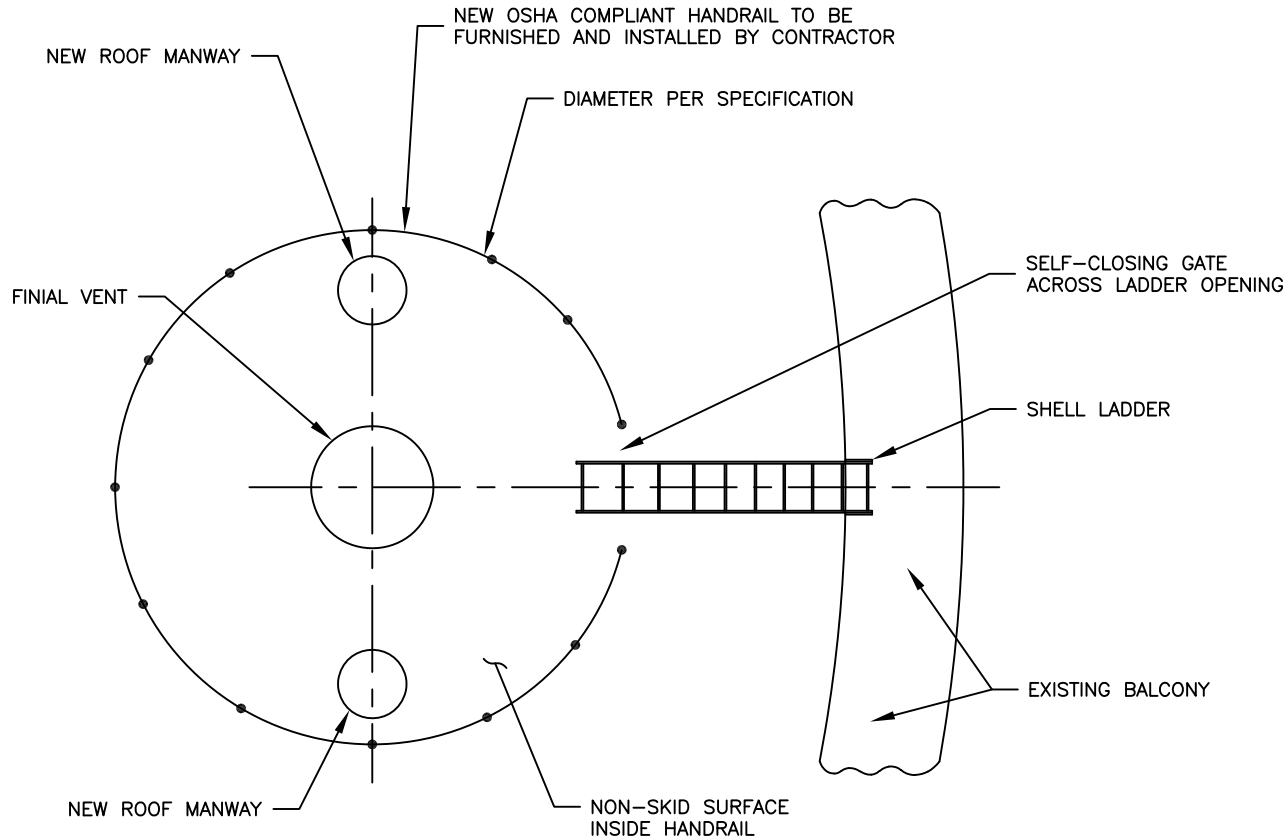
1. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
2. ALL WELDING SHOWN IS TO BE DONE BY CONTRACTOR.
3. COVER PLATES SHALL BE A36 STEEL AND PROVIDED BY CONTRACTOR.
4. NUMBER OF COVER PLATES VARIES; SEE SPECIFICATION.



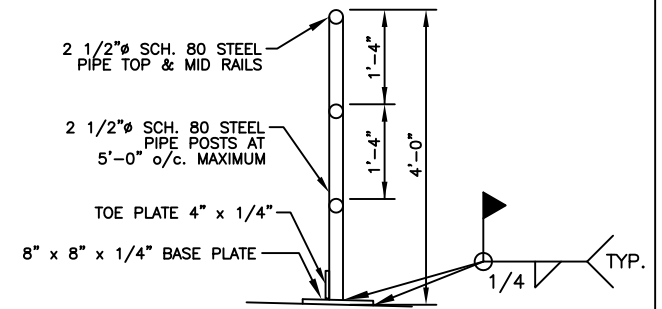
ELEVATION

NOTES:

1. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
2. CONTRACTOR TO FIELD VERIFY ALL MEASUREMENTS AND FABRICATE AS DEPICTED.



PLAN VIEW



SECTION THRU HANDRAIL

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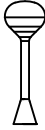
PIPE STYLE HANDRAIL
ROOF LADDER-EWT w/ COLUMNS

DATE	FEBRUARY 2026
KLM DRAWING NO.	14e



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KLM PROJECT NO.

KLM DRAWING NO. 15e

SUBJECT PIPE STYLE BOWL HANDRAIL

DRAWN BY

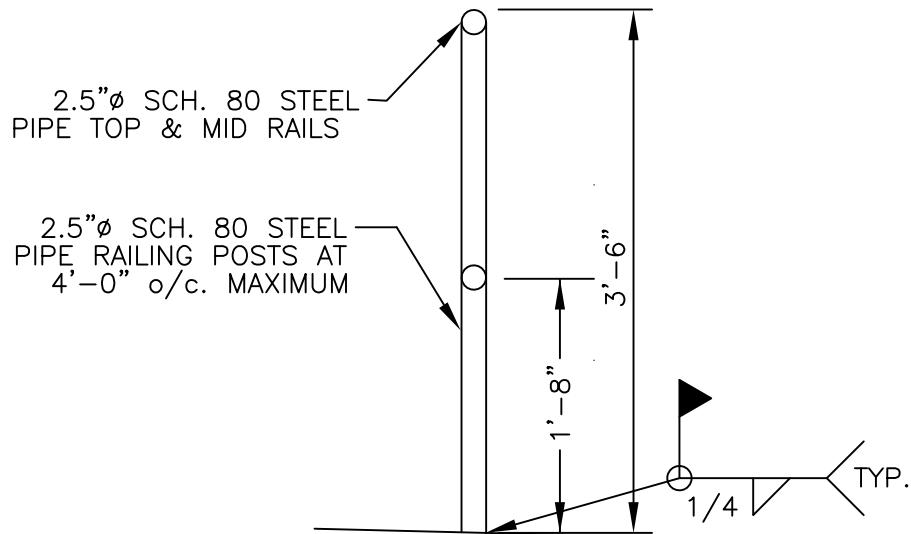
DATE JANUARY 2026

CHECKED BY

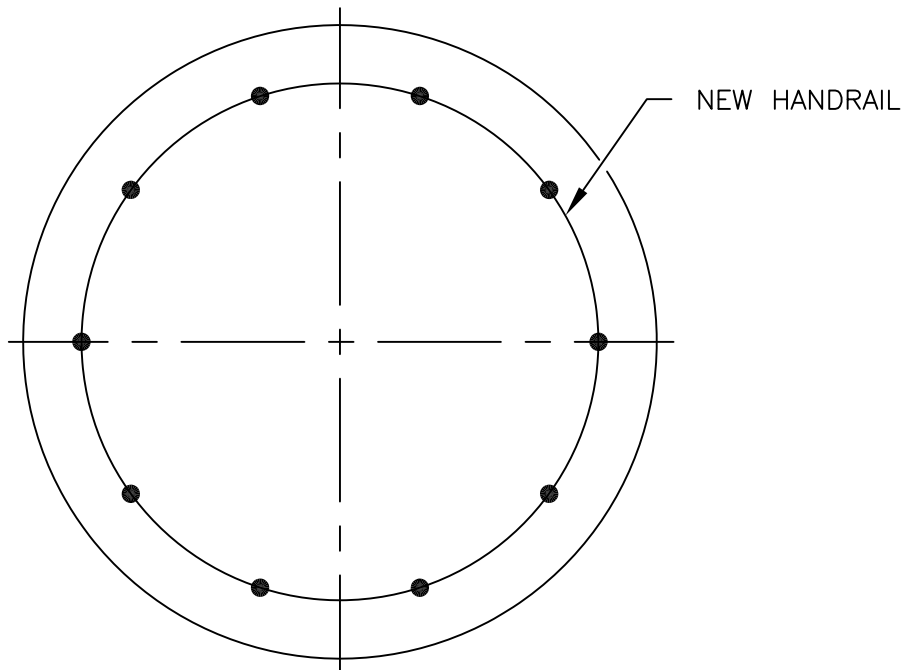
DATE

NOTES:

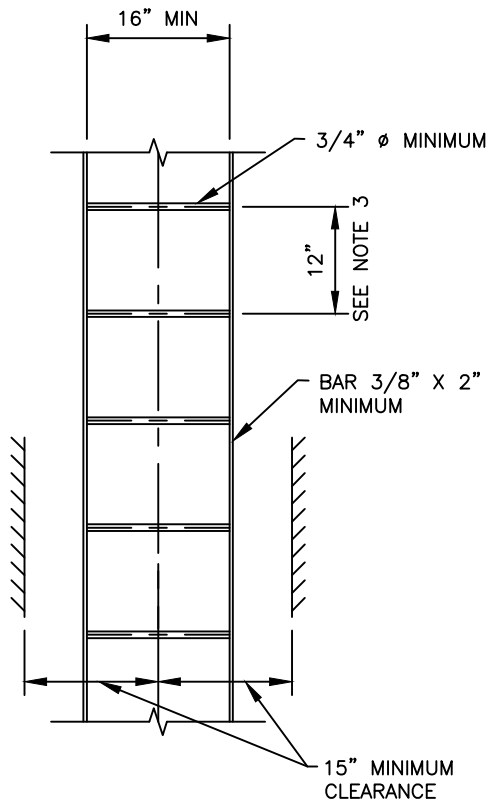
1. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
2. ALL WELDING SHOWN IS TO BE DONE BY CONTRACTOR.
3. PIPE RAILING POSTS SHALL BE 4'-0" ON CENTER SPACING MAXIMUM.
4. ALL SEAMS TO BE SEAL WELDED AND PIPE CAPPED.



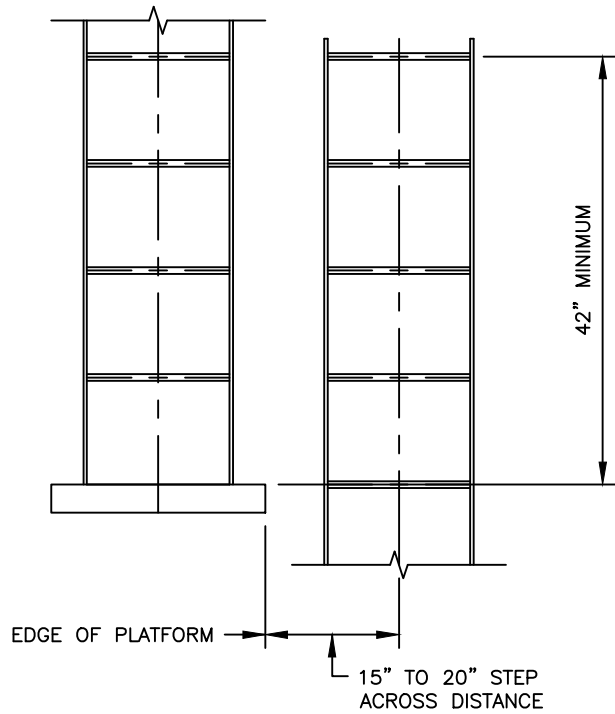
SECTION THRU HANDRAIL



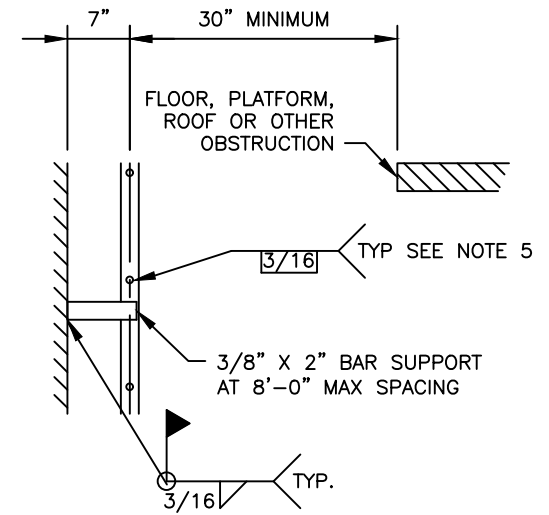
PLAN VIEW



1
- LADDER DIMENSIONS



2
- SIDE STEP DIMENSIONS



3
- LADDER CLEARANCES

NOTES:

1. VERIFY THAT ALL DIMENSIONS MEET THE REQUIREMENTS OF OSHA, LATEST EDITION, BEFORE FABRICATION.
2. ALL LADDERS MUST BE EQUIPPED WITH AN OSHA APPROVED SAFETY CLIMB DEVICE (NOT SHOWN). KLM RECOMMENDS USING EQUIVALENT TO DBI/SALA LADSAFE (R).
3. ALL RUNGS SHALL BE UNIFORMLY SPACED FROM GRADE TO TOP OF STRUCTURE.
4. ALL WELDS SHALL MEET THE REQUIREMENTS OF AWS D1.1 LATEST EDITION.
5. PLUG WELD LADDER RUNGS ON EXTERIOR SIDE OF RAIL, WHERE LADDER IS EXPOSED TO SUBMERGED CONDITIONS RUNGS SHALL BE WELDED ON BOTH SIDES.

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OSHA FIXED LADDER

DATE	JANUARY 2018
KLM DRAWING NO.	19

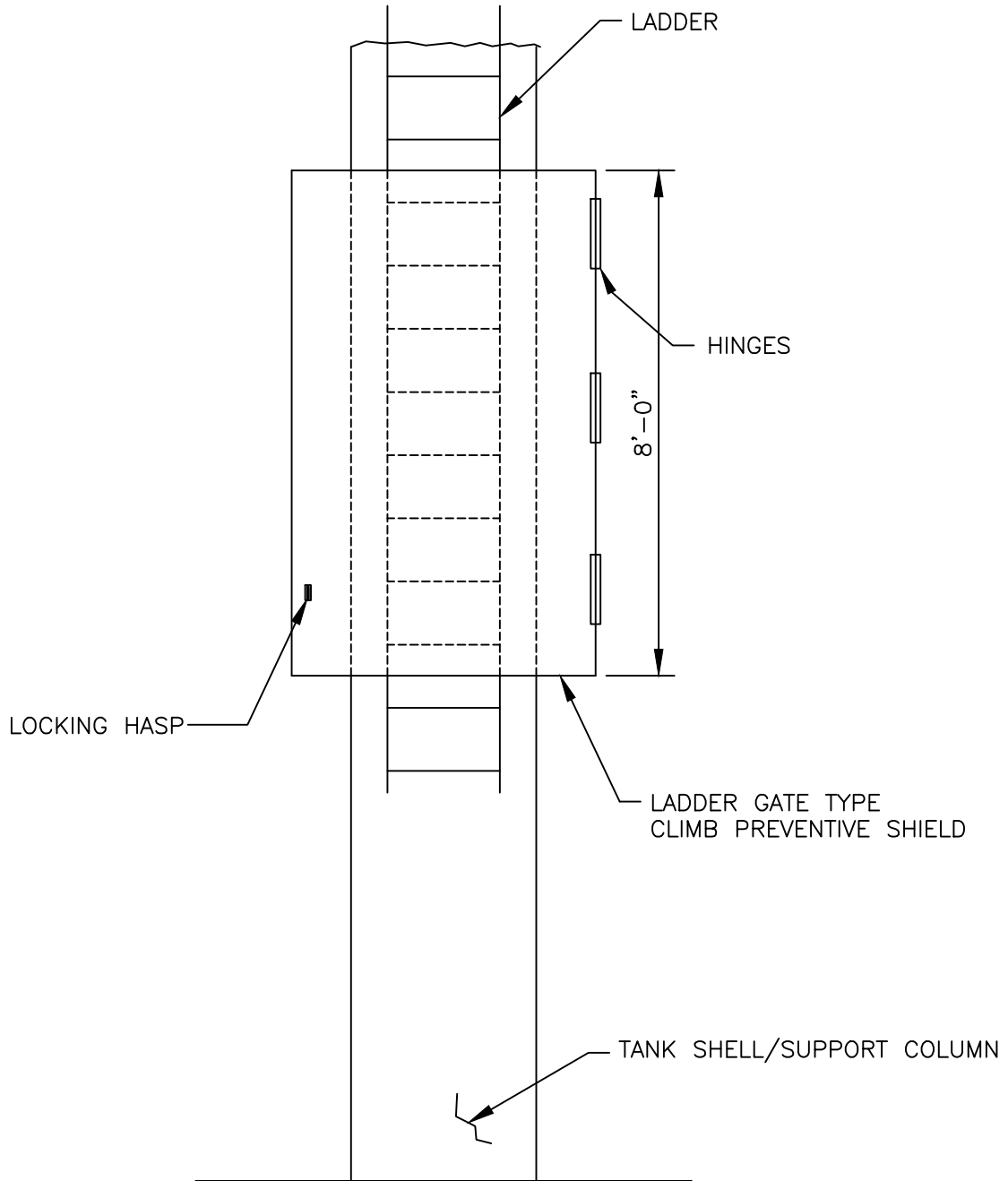


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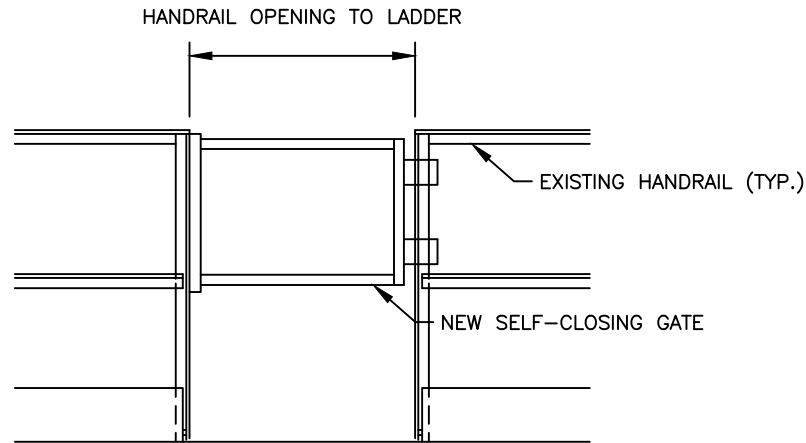
KLM PROJECT NO.	KLM DRAWING NO. 20
SUBJECT LADDER GATE/ANTI-CLIMB PLATE	
DRAWN BY	DATE JANUARY 2018
CHECKED BY	DATE



ELEVATION

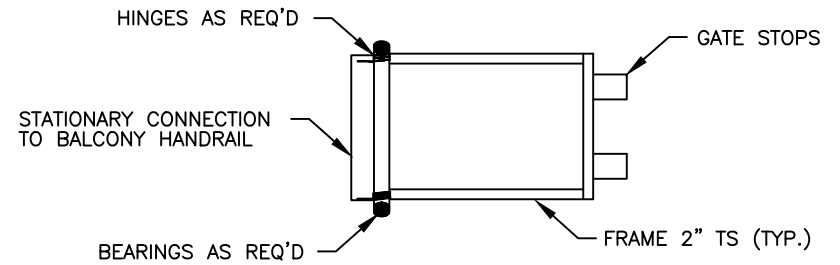
NOTES:

1. INSTALL A SELF CLOSING GATE AT THE OPENING IN THE BALCONY HANDRAIL AT THE LADDER AS INDICATED.
2. PRE-FABRICATED GATES MUST BE APPROVED BY ENGINEER.
3. GATE SHALL MEET APPLICABLE OSHA REGULATIONS.



(LADDER & CAGE REMOVED FOR CLARITY)

$\frac{1}{-}$ ELEVATION AT LADDER



$\frac{2}{-}$ DETAIL OF GATE

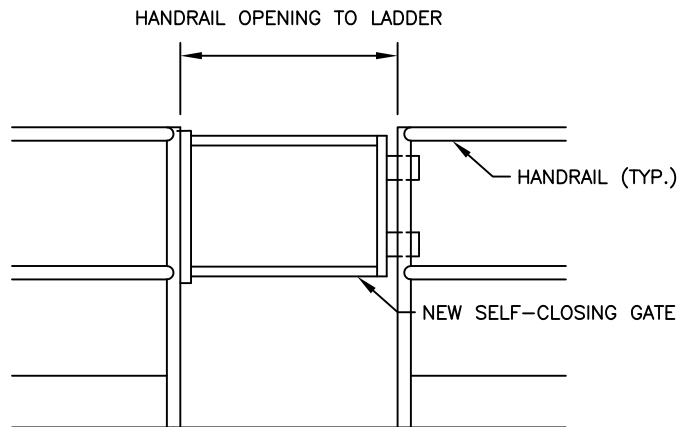
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SELF CLOSING GATE

DATE	JANUARY 2018
KLM DRAWING NO.	22

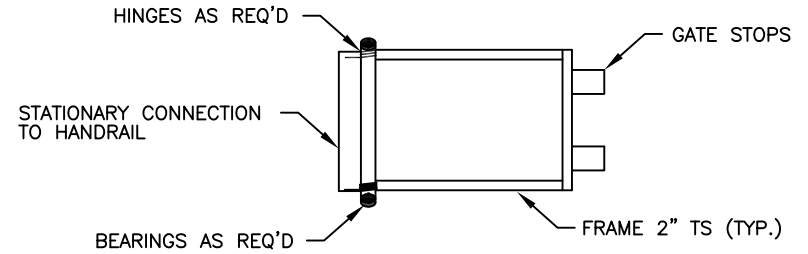
NOTES:

1. INSTALL A SELF CLOSING GATE AT THE LADDER OPENING IN THE HANDRAIL AS INDICATED. GATE TO SWING INWARD.
2. PRE-FABRICATED GATES MUST BE APPROVED BY ENGINEER.
3. GATE SHALL MEET APPLICABLE OSHA REGULATIONS.



(LADDER REMOVED FOR CLARITY)

1
—
— ELEVATION AT LADDER



2
—
— DETAIL OF GATE

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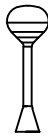
SELF CLOSING GATE

DATE	OCTOBER 2025
KLM DRAWING NO.	22b



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KLM PROJECT NO.

KLM DRAWING NO. 24

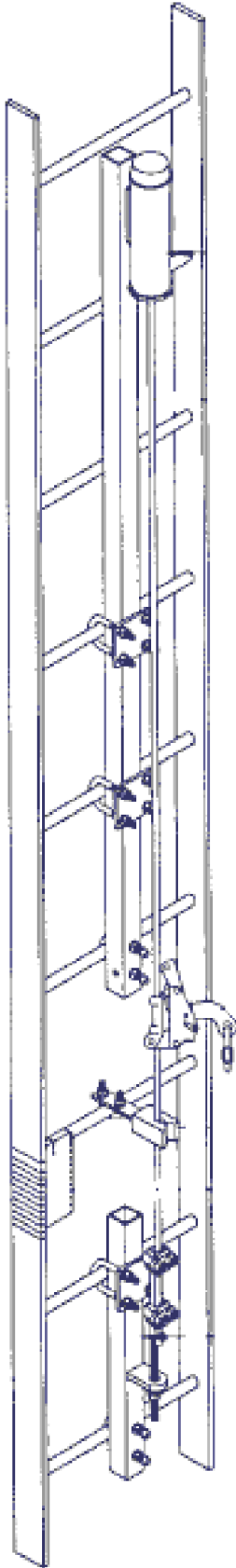
SUBJECT LADDER SAFETY CLIMB DEVICE – CABLE STYLE

DRAWN BY

DATE JANUARY 2018

CHECKED BY

DATE



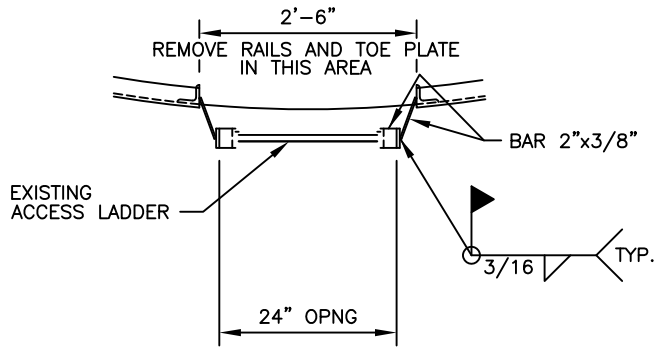
NOTES:

1. CONTRACTOR SHALL PROVIDE AND INSTALL A CABLE STYLE SAFETY CLIMB DEVICE PER THE SPECIFICATION
2. SYSTEM SHALL BE EQUIVALENT TO THE DBI/SALA LAD-SAF(R) FLEXIBLE CABLE SYSTEM
3. CONTRACTOR SHALL PROVIDE TWO (2) HARNESSES AND LAD-SAF(R) SLEEVES WITH SAFLOK CARABINER (OR EQUIVALENT)
4. CONTRACTOR SHALL PROVIDE DOUBLE LANYARDS WITH EACH HARNESS PROVIDED

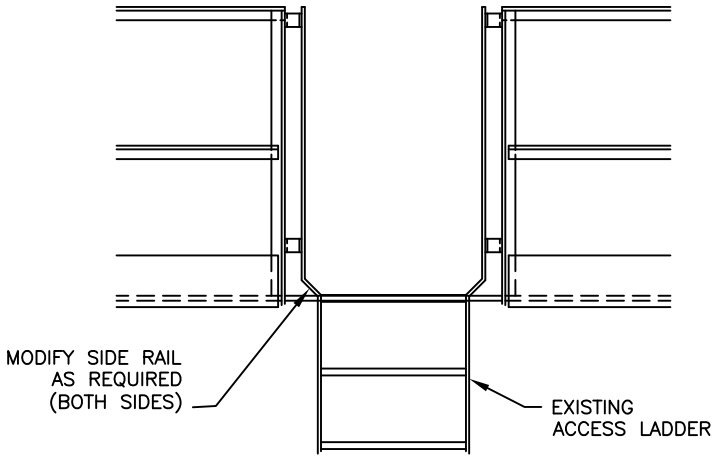


NOTES:

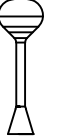
1. MODIFY THE LADDER TO BE A STEP THROUGH WITH A 24" MINIMUM OPENING.
2. INTSTALL AN OPENING IN THE BALCONY HANDRAIL AT THE LADDER AS INDICATED, 30" MAXIMUM.
3. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.



1 PLAN AT LADDER



2 ELEVATION AT LADDER

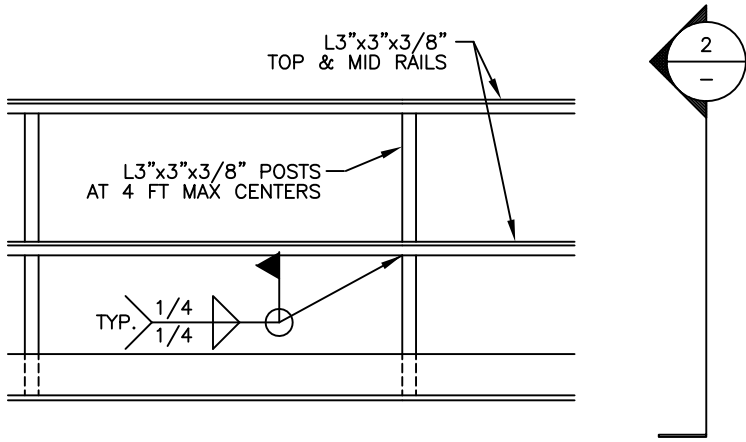
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BALCONY HANDRAIL
AND ACCESS LADDER
MODIFICATION

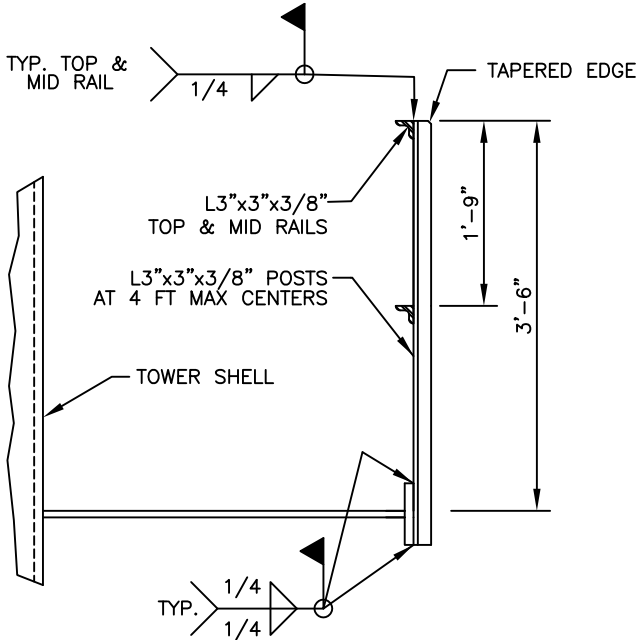
DATE	FEBRUARY 2025
KLM DRAWING NO.	27c

NOTES:

1. INSTALL AN OSHA COMPLIANT HANDRAIL AS SHOWN.
2. THE RAILING SHALL BE MOUNTED TO THE OUTSIDE OF THE TOWER SHELL (AS SHOWN).
3. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.



$\frac{1}{-}$ VIEW OF HANDRAIL FROM BALCONY

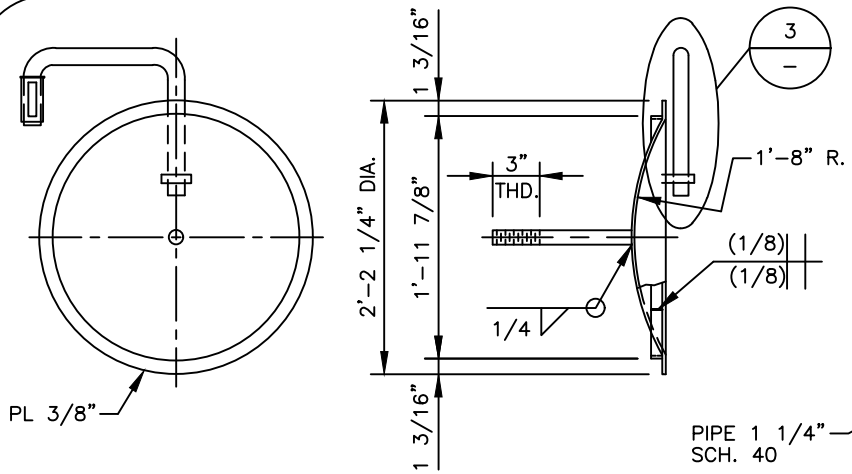


$\frac{2}{-}$ SECTION THRU HANDRAIL

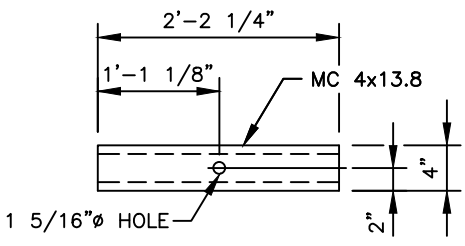
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BALCONY HANDRAIL

DATE	FEBRUARY 2025
KLM DRAWING NO.	29c

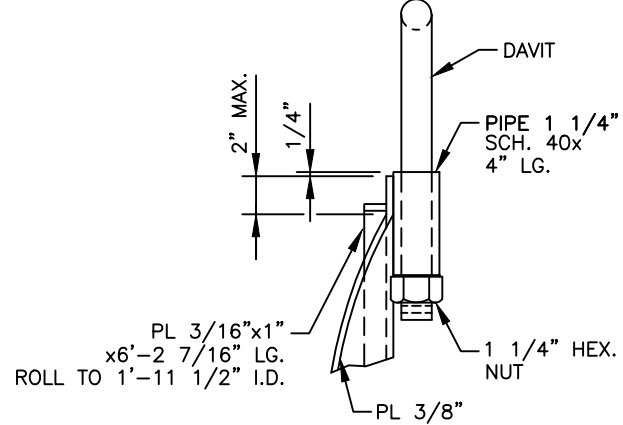


1 COVER DETAIL

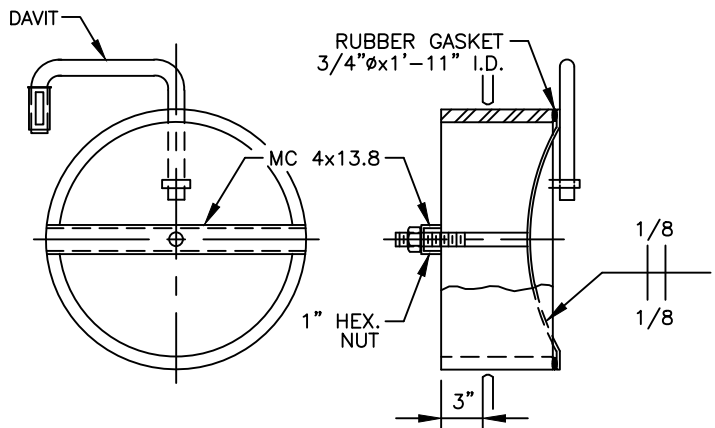


2 COVER DETAIL

- NOTES:**
1. ALL WELDING SHALL BE PER AWS D1.1 LATEST EDITION.
 2. CONTRACTOR TO PROVIDE CERTIFIED CALCULATIONS IF NO REPAD IS INSTALLED.

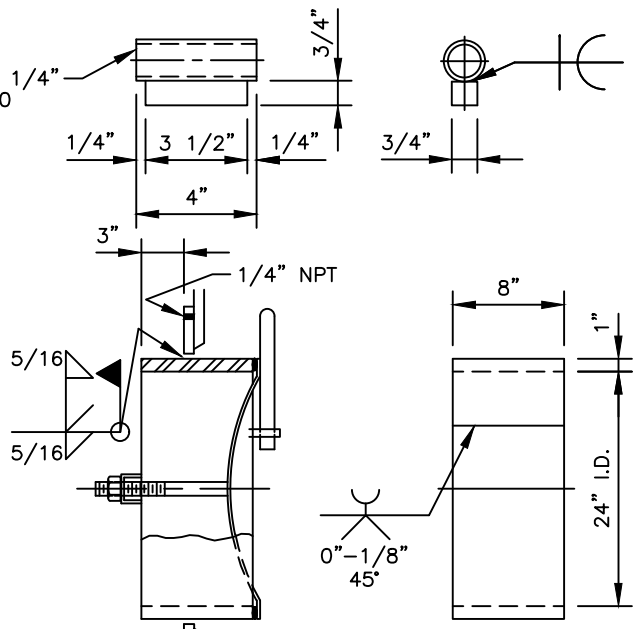


3 DAVIT CONN. DETAIL

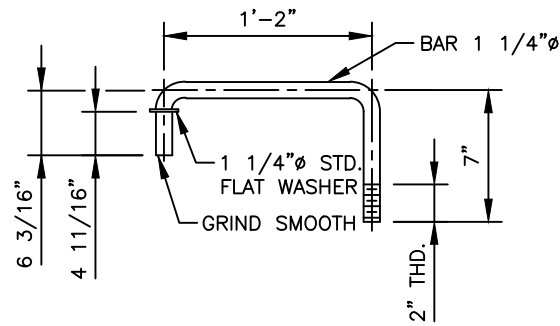


4 ELEVATION w/o REPAD

REPAD PL AS REQUIRED BY ENGINEER



5 ELEVATION w/ REPAD



6 DAVIT

KLM ENGINEERING, INC.
 1976 Wooddale Drive
 Suite 4
 Woodbury, MN 55042
 (651) 773-5111
 Fax (651) 773-5222

24" SHELL MANWAY
 PRESSURE TYPE

DATE	JANUARY 2018
KLM DRAWING NO.	37a

APPENDIX C

SURFACE PREPARATION REQUIREMENTS



Standard Practice

Design, Fabrication, and Surface Finish Practices for Tanks and Vessels to Be Lined for Immersion Service

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Foreword

When specifying tanks and vessels that are to be internally lined to control corrosion and prevent product contamination, special design, fabrication, and surface finishing practices must be considered to obtain the desired performance of these linings for immersion service. As the corrosiveness of the product increases, the design and fabrication of the tank or vessel becomes more critical relative to the performance of the lining.

This standard presents standard practices for the design, fabrication, and surface finish of metal tanks and vessels that are to be lined for corrosion resistance and to prevent product contamination. The standard explains how the standard practices govern the quality of lining applications. Appendix A contains illustrations depicting both good and bad practices for tanks and vessels to be lined, and Appendix B contains a list of recommended responsibilities to ensure that an acceptable lining application is achieved. Appendix C contains written and graphic descriptions of five degrees of surface preparation of welds in tanks and vessels that may be specified prior to lining.⁽¹⁾

This standard is intended for use or reference by end users, lining specifiers, lining applicators, lining manufacturers, and contracting authorities involved in the surface preparation or lining installation in tanks and vessels intended for chemical immersion service.

This standard practice was originally prepared in 1978 by NACE International Task Group (TG) T-6A-29, a component of Unit Committee T-6A on Coating and Lining Materials for Immersion Service, in collaboration with Unit Committee T-6H on Application and Use of Coatings for Atmospheric Service. The standard was revised in 1989 by TG T-6G-27, a component of Unit Committee T-6G on Surface Preparation for Protective Coatings, and was reaffirmed in 1991 and 1995. It was reaffirmed in 2003 by Specific Technology Group (STG) 04 on Coatings and Linings, Protective: Surface Preparation. The standard was revised in 2007 by TG 295 on Lining, Tanks and Vessels for Immersion Service: Fabrication Details, Surface Finish Requirements, and Proper Design Considerations—Review of NACE Standard RP0178-2003. This TG is administered by STG 04. It is also sponsored by STG 02 on Coatings and Linings, Protective: Atmospheric; STG 03 on Coatings and Linings, Protective: Immersion and Buried Service; and STG 43 on Transportation, Land. This standard is issued by NACE International under the auspices of STG 04.

⁽¹⁾ The visual comparator mentioned in Appendix C is a molded plastic replica that illustrates various degrees of surface finishing for welds prior to coating or lining. Full-seam welds, skip welds, butt welds, lap welds, and others are depicted. For more information contact the NACE FirstService Department, 1440 South Creek Drive, Houston, TX 77084-4906.

NACE International gratefully acknowledges the contributions of the following companies in the preparation of the welding samples and the fabrication of the die from which the plastic replicas have been molded:

Ausimont USA, Inc.,⁽²⁾ Thorofare, NJ
CenterPoint Energy,⁽³⁾ Houston, TX
S.G. Pinney & Associates, Inc.,⁽⁴⁾ Port St. Lucie, FL
The Sherwin-Williams Company,⁽⁵⁾ Cleveland, OH

NACE also gratefully acknowledges the assistance of KTA-Tator Inc.,⁽⁶⁾ Pittsburgh, PA, in developing the weld pattern that was used to mold the plastic replica of weld samples.

In NACE standards, the terms *shall*, *must*, *should*, and *may* are used in accordance with the definitions of these terms in the *NACE Publications Style Manual*, 4th ed., Paragraph 7.4.1.9. *Shall* and *must* are used to state mandatory requirements. *Should* is used to state something considered good and is recommended but is not mandatory. *May* is used to state something considered optional.

⁽²⁾ Ausimont USA, Inc., 10 Leonards Lane, Thorofare, NJ 08086.

⁽³⁾ CenterPoint Energy, P.O. Box 1325, Houston, TX 77251-1325.

⁽⁴⁾ S.G. Pinney & Associates, Inc., Corporate Office, 1326 S.W. Biltmore St., Port St. Lucie, FL 34983.

⁽⁵⁾ The Sherwin-Williams Company, 101 Prospect Avenue N.W., Cleveland, OH 44115.

⁽⁶⁾ KTA-Tator, Inc., 115 Technology Drive, Pittsburgh, PA 15275.

**NACE International
Standard Practice**

**Design, Fabrication, and Surface Finish Practices for
Tanks and Vessels to Be Lined for Immersion Service**

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Section 1: General

1.1 This standard presents standard practices for the design, fabrication, and surface finish of tanks and vessels to be lined for immersion service. Tanks and vessels may be lined for corrosion control or to prevent product contamination.

1.1.1 Appendix A (mandatory) contains illustrations depicting both good and bad practices for tanks and vessels to be lined for immersion service.

1.1.2 Appendix B (nonmandatory) contains a list of recommended responsibilities of the purchaser (user), designer, fabricator, lining applicator, and inspector to ensure that an acceptable lining application is achieved.

1.1.3 Appendix C (nonmandatory) contains written and graphic descriptions of five degrees of surface preparation of welds in tanks and vessels that may be specified prior to lining. The written descriptions of the five degrees of surface preparation of welds in Appendix C take precedence over the graphics and the companion visual comparator. The graphics are only

pictorial representations of welds and grinding finishes and are not intended to be representative of the integrity of the welds. The “weld condition prior to finishing” is not a typical weld; it is only intended to illustrate defects in welds that must be corrected prior to lining.

1.2 Good welding practices and welding codes govern the integrity of the tank and vessel welds; this standard only addresses surface preparation of the welds for the purpose of lining the tank or vessel for immersion service.

1.3 Other design and construction codes or standards may be used to complement the details given here. When applicable, the requirements of such other codes or standards shall be considered. A partial list of such codes and standards can be found in the Bibliography.

1.4 These standard practices may be used in the design, fabrication, and surface finish of tanks and vessels for services other than immersion, such as dry bulk storage of solid materials.

Section 2: Definitions

Lining: A coating or layer of sheet material adhered to or in intimate contact with the interior surface of a container used to protect the container against corrosion by its contents and/or to protect the contents of the container from contamination by the container material. For the purposes of this standard, *lining* refers to a surface barrier, usually a thin film less than 500 µm (20 mil) thick applied as either a lining or a coating. In common usage, the terms *coating* and *lining* are interchangeable, but in this standard, only the term *lining* is used. The requirements contained herein may or may not apply to heavier, thick-film linings, sheet linings, trowel-applied and pumped-into-place finishes, plasma,

flame-sprayed linings, fiber-reinforced plastic linings, or similar lining materials.

Surface Finish: The degree of smoothness of a surface produced by the removal of sharp edges and the appropriate surface preparation of welds and other rough areas. The term *surface finish* is also used to characterize the degree of smoothness that is necessary to attain a surface to which the lining can be applied satisfactorily in accordance with the lining specification.

Section 3: Design Practices

3.1 Accessibility

3.1.1 All surfaces of the tank or vessel interior shall be readily accessible for surface preparation and lining application (see Figures A1 through A10, Appendix A).

3.1.2 The manway diameter for working entrance and safety reasons during the lining application shall be as large as practical for the tank or vessel being lined.

3.1.2.1 If possible, at least one manway shall be located near ground (working) level, except in

tanks or vessels designed to be buried below grade.

3.1.3 Additional manways and openings should be provided as needed to facilitate ventilation. These must meet safety requirements.

3.2 Joints

3.2.1 Continuous butt-welded joints shall be used whenever possible (see Figure A5, Appendix A).

SP0178-2007

3.2.2 Rivets shall not be used.

3.2.3 The use of internal bolted connections should be avoided to the fullest extent possible.

3.2.4 Continuous lap-welded joints may be used but are not preferred. For sheet lining material, this type of construction may not be acceptable.

3.3 Connections

3.3.1 All connections to the tank or vessel shall be flanged.

3.3.2 Threaded connections should not be used in tanks and vessels operating in corrosive environments (see Figure A4, Appendix A). However, if threaded connections cannot be avoided in corrosive environments, these parts shall be fabricated of corrosion-resistant materials, or constructed as shown in Figure A10, Appendix A.

3.3.2.1 CAUTION: Dissimilar metal (galvanic) corrosion occurs when, for example, an alloy is used to replace the steel bottom of a tank, or in a similar circumstance when alloy appurtenances must be part of the construction of a vessel. If a lining is then applied to the steel and part of the alloy (usually 150 to 610 mm [5.9 to 24 in.]), any discontinuity in the lining exposes a small anode surface. Once corrosion starts, it progresses rapidly because of the large exposed alloy cathodic area to the much smaller anodic area. Without the lining, galvanic corrosion causes the steel to corrode at the weld area, but at a much slower rate. The recommended practice is to apply the lining to all of the alloy as well as the steel, thereby eliminating the possible occurrence of a large-cathode-to-small-anode surface.

3.3.3 Nozzle connections to be lined shall be as short as possible and be a minimum of 50 mm (2 in.) in diameter (see Figure A4, Appendix A). Connections less than 50 mm (2 in.) in diameter shall be suitably attached through a reducing flange (see Figure A10, Appendix A). When trowel-applied thick-film linings are required, additional nozzle inside diameter shall be allowed for lining thickness.

3.4 Appurtenances Inside the Tank or Vessel

3.4.1 The standard practices in Sections 3, 4, and 5 shall apply to any item to be installed inside a tank or vessel that is to be lined. Such appurtenances include, but are not limited to, agitators, anti-swirl baffles, outlet connections, gauging devices, vortex breakers, and internal piping.

3.4.2 If appurtenances inside the tank or vessel, including nuts and bolts, cannot be lined, they shall be made of corrosion-resistant materials. (CAUTION: See Paragraph 3.3.2.1.)

3.4.3 If bolted connections are necessary and cannot be made of corrosion-resistant materials, the mating surfaces shall be lined before assembly. Gaskets shall be used on mating surfaces and the sealing surfaces of nuts and bolts to protect the lining.

3.4.4 Dissimilar metals shall be electrically isolated from the steel tank or vessel surface whenever possible. Where dissimilar metals are used, selection shall be such that the galvanic effect is minimized. Other corrosion mitigation methods may be required (see Figure A8, Appendix A).

3.4.5 Heating elements shall be offset from the tank or vessel surface to provide access for surface preparation, application, inspection, and cleaning. Elements shall be positioned so as not to damage the lining system.

3.5 Structural Reinforcement Members

3.5.1 Structural support members should be installed on the exterior of the tank or vessel. However, if such members are installed internally, they shall be fabricated of simple shapes such as smooth, round bars or pipe for ease of applying the lining material.

3.5.2 The use of internal flanged connections, stiffening rings, reinforcement pads, angles, channels, I-beams, and other complex shapes should be avoided. If they must be installed internally, these members shall be fully welded and welds and sharp edges ground to a radius of at least 3.2 mm (0.13 in.) or as agreed between the tank or vessel fabricator, tank or vessel owner, and lining applicator (see Figures A1 and A6, Appendix A).

3.6 Heat Sinks

3.6.1 Heated, forced curing of lining systems is often preferred if not specifically required. During tank or vessel design and fabrication, especially with field-erected units, consideration must be given to avoiding or minimizing heat sink areas. Such areas might include opposite saddles or support lugs, flat bottoms on foundations, and stiffening rings.

3.6.2 These situations may be addressed either by tank or vessel design or by construction or insulation of the foundation or supports. Another possible solution is the use of temporary constructions, such as false floors or temporary shelters, to achieve uniform heating and curing.

Section 4: Fabrication Practices

4.1 All design practices in Section 3 shall apply to all fabrication.

4.2 All welding shall be continuous. Intermittent or spot welding shall not be allowed.

4.3 Fillets and corners must be accessible for grinding.

4.4 Field tanks fabricated for use with high-heat-cured linings (e.g., unmodified phenol formaldehyde thermosetting linings) should have bottoms suitably insulated and installed on properly drained foundations to facilitate proper cure of the lining on the floor of the tank. Because the sand-filled earthen foundation, concrete pad, or other similar foundation is a poor insulator, some means must be considered prior to the application of the lining either to override the heat sink or to distribute the heat uniformly. This may be accomplished in several ways:

(a) with the use of properly sized heaters;

(b) by placing the tank on a concrete pad topped with a 100-mm (4-in.) layer of vermiculite concrete;

(c) by insulating with a high-compressive-strength structural grade insulation between the tank bottom and foundation;

(d) by installing an internal temporary false bottom approximately 1.5 m (5.0 ft) above the floor of the tank prior to the final high-temperature bake; or

(e) by other suitable means that practically and effectively ensure a properly cured lining on the tank floor.

Section 5: Surface Finish Practices

5.1 Sharp edges shall be ground to a smooth radius of at least 3.2 mm (0.13 in.) or as agreed between the tank or vessel fabricator, tank or vessel owner, and lining applicator.

5.2 Tank and vessel internal surfaces to be lined shall not be marred by gouges, handling marks, deep scratches, metal stamp marks, slivered steel, or other surface flaws. Flaws shall be repaired by welding or grinding, as appropriate.

5.2.1 Limits on surface flaw depth and geometry shall be set by agreement between the tank or vessel fabricator, tank or vessel owner, and lining applicator.

5.2.2 All restorative welding shall be performed according to applicable tank or vessel design codes, approved job-specific procedures, or both.

5.3 All rough welds shall be ground to remove sharp edges and other such irregularities (see Figure A2, Appendix A). Chipping may be used to remove sharp edges if followed by grinding. See Appendix C for written and graphic descriptions of five degrees of surface finishing of welds that may be specified preparatory to the lining of tanks and vessels.

5.3.1 The amount of grinding performed shall be judicious and performed only to the extent necessary to

prepare the weld surface and surrounding metal surfaces in accordance with the specification. Over-grinding, which would result in decreasing the wall thickness or the integrity of the weld beyond the limitations imposed by good welding practices, applicable welding codes, or tank or vessel ratings, shall be avoided.

5.4 Automatic machine welds may be acceptable as dictated by the specifications for film continuity.

5.5 All weld spatter and arc strikes must be removed. Chipping may be used if followed by grinding or the use of an abrasive disc.

5.6 If an anti-spatter material is applied adjacent to the weld area prior to welding, the anti-spatter material shall be one that is readily removable. Anti-spatter materials shall be removed prior to abrasive blasting.

5.7 When checking weld continuity, the tank or vessel fabricator shall avoid the use of oils, lubricants, or other foreign materials that would leave a contaminating residue not easily removed by abrasive blasting.

5.8 Surfaces shall be cleaned and decontaminated as required by the governing lining application specification(s).

Bibliography

API⁽⁷⁾ Standard 650 (latest revision). "Welded Steel Tanks for Oil Storage." Washington, D.C.: American Petroleum Institute (API).

API RP 652 (latest revision). "Lining of Aboveground Petroleum Storage Tank Bottoms." Washington, D.C.: API.

ASME⁽⁸⁾ Boiler and Pressure Vessel Code (latest revision). New York, NY: ASME.

Directive 97/23/EC (latest revision). "Pressure Equipment Directive (PED)." Brussels, Belgium: European Commission.⁽⁹⁾

NACE Standard SP0294 (latest revision). "Design, Fabrication, and Inspection of Storage Tank Systems for Concentrated Fresh and Process Sulfuric Acid and Oleum at Ambient Temperatures." Houston, TX: NACE.

⁽⁷⁾ American Petroleum Institute (API), 1220 L Street, NW, Washington, D.C. 20005-4070.

⁽⁸⁾ ASME International (ASME), Three Park Avenue, New York, NY 10016-5990.

⁽⁹⁾ European Commission (EC), Rue de la Loi 200, B-1049 Brussels, Belgium.

**APPENDIX A:
Illustrations of Design, Fabrication, and Surface Finish Practices for Metal Tanks and Vessels to Be Lined for Immersion Service**

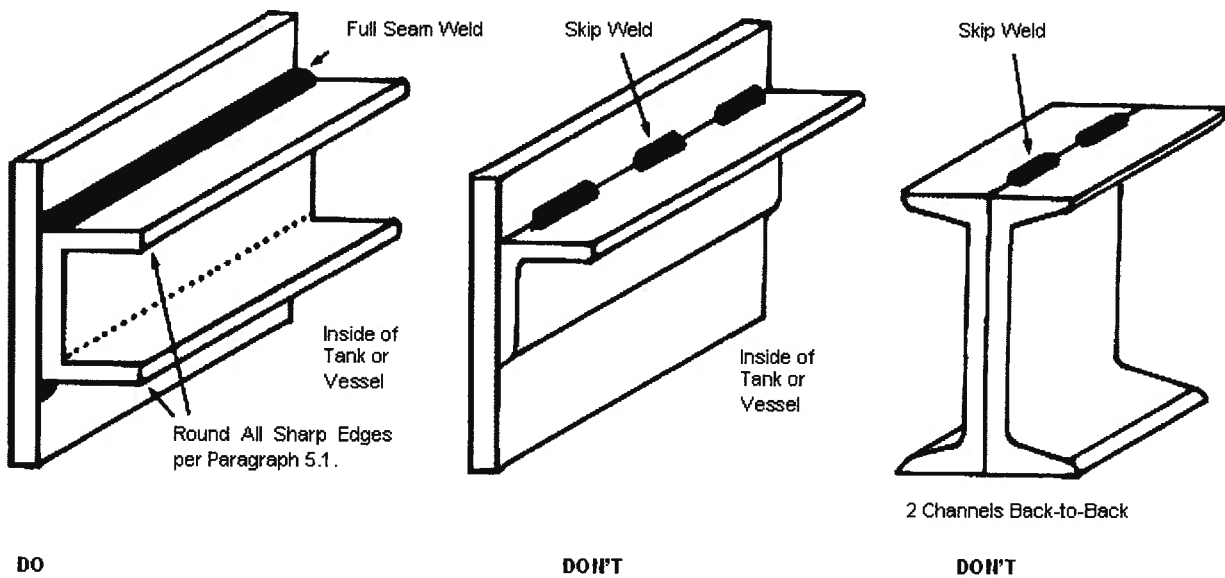


FIGURE A1

All construction involving pockets or crevices that do not drain or that cannot be properly abrasive blasted and lined shall be avoided.

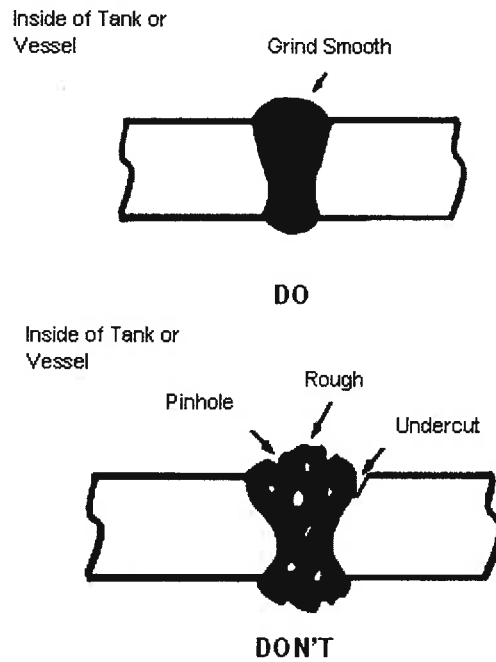


FIGURE A2

All joints shall be continuous full-penetration porosity-free welds. In tanks and vessels that require a 100% holiday-free lining, all welds must be smooth with no holes, high spots, lumps, or pockets. Grinding is required to eliminate sharp edges and high spots. Weld metal shall be used to fill in undercut or pits.

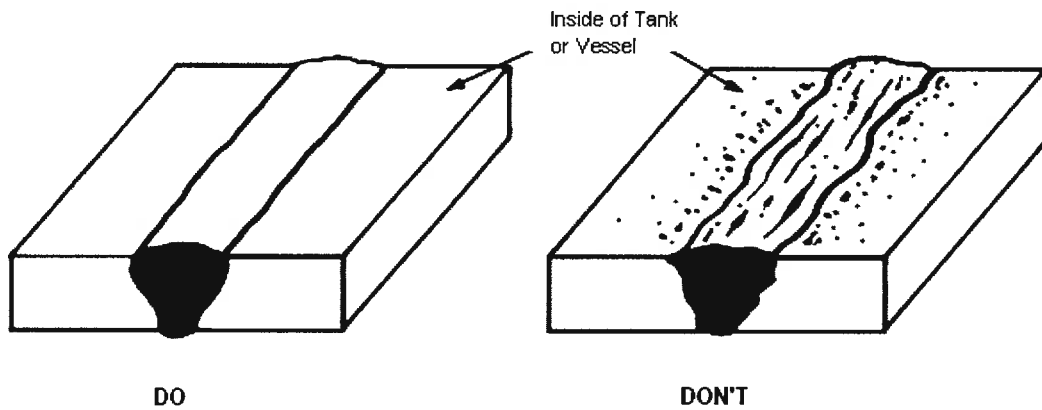


FIGURE A3

All weld spatter shall be removed.

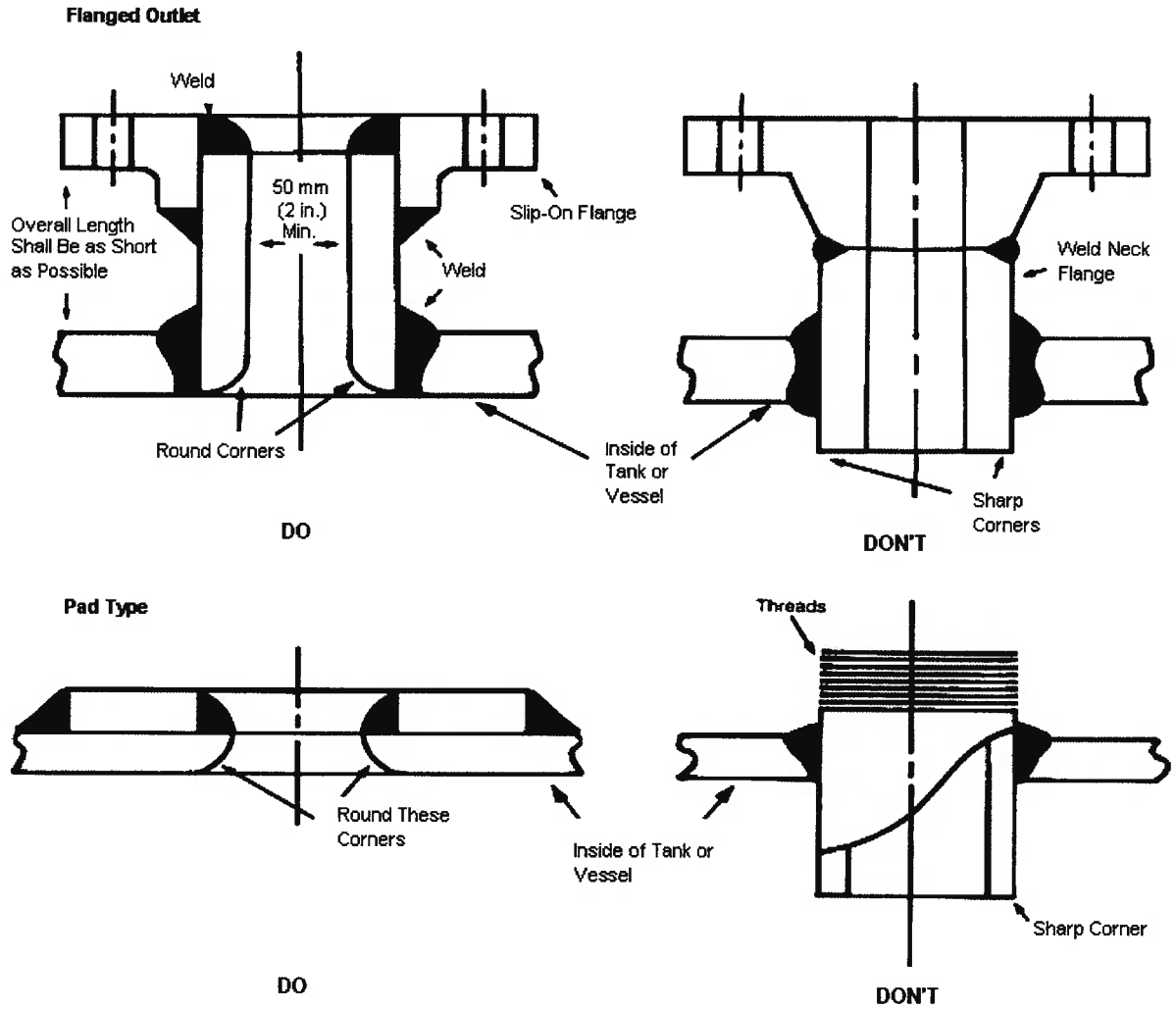


FIGURE A4

The outlets shall be flanged or pad-type rather than threaded. Within pressure limitations, slip-on flanges are preferred because the inside surface of the attaching weld is readily available for rounding edges and grinding. If operating pressure dictates the use of weld neck flanges, the inside surface of the attaching weld is in the throat of the nozzle, making repair of surface irregularities by grinding rather difficult.

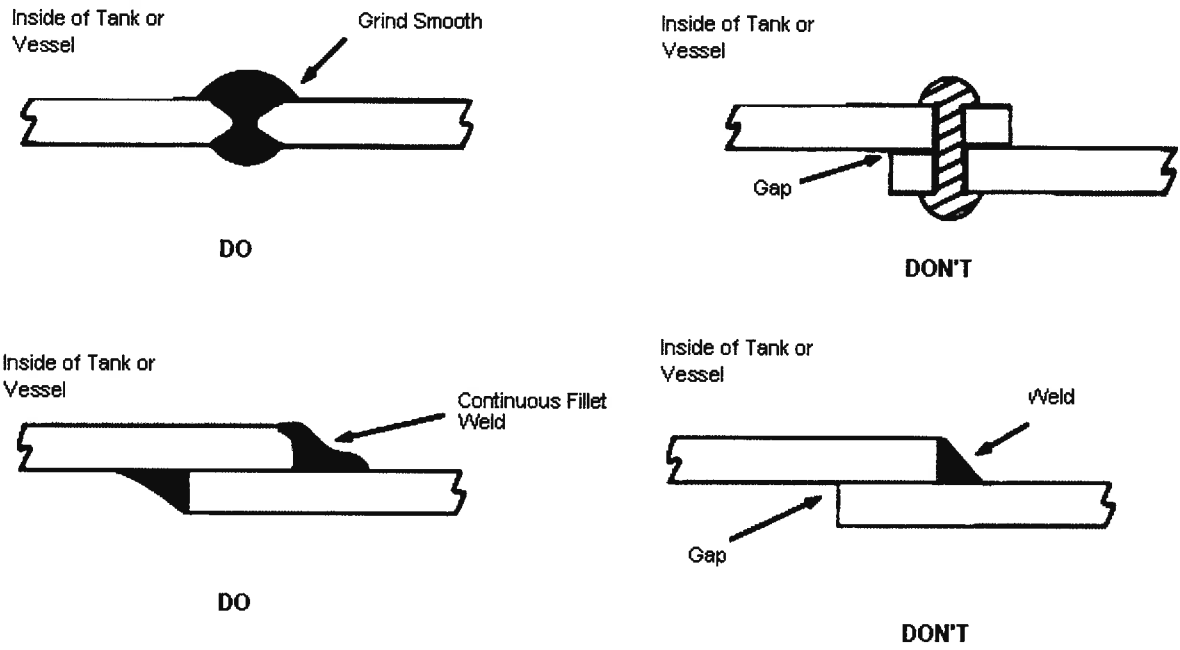


FIGURE A5

Butt welding shall be used whenever possible rather than lap welding or riveted construction.

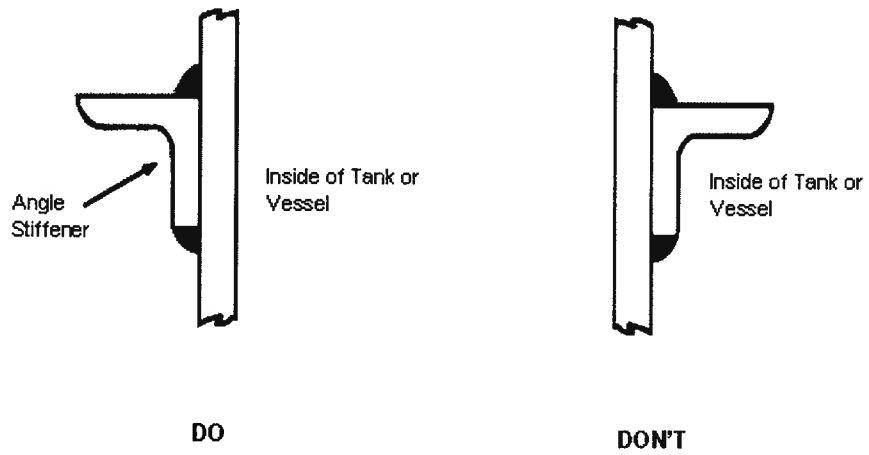


FIGURE A6

Stiffening members should be on the outside of the tank or vessel.

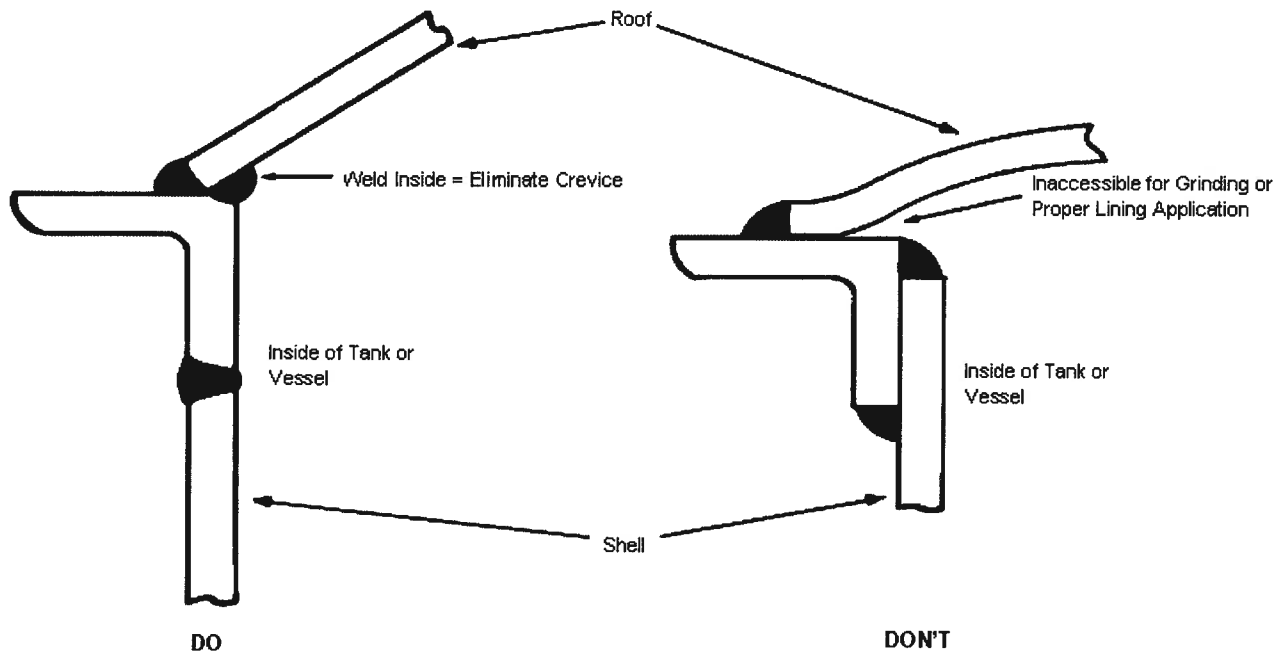


FIGURE A7

Roof-to-Shell Joint. Eliminate crevice and lap weld at roof-to-shell joint in a tank or nonpressure vessel.

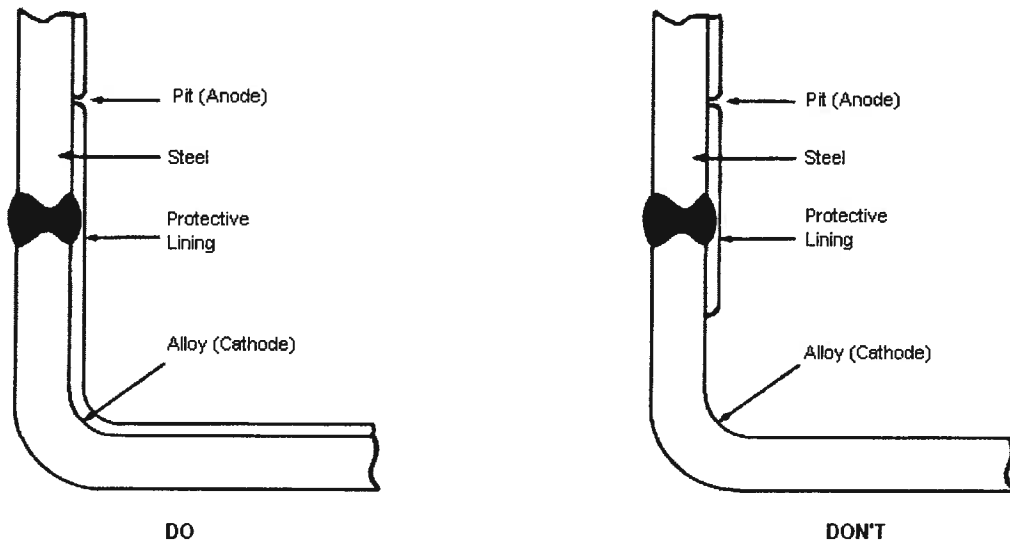


FIGURE A8

Dissimilar metal (galvanic) corrosion occurs when, for example, an alloy is used to replace the steel bottom of a tank, or, in a similar circumstance, when alloy appurtenances must be a part of the construction of a vessel. If a lining is then applied to the steel and part of the alloy (usually 150 to 610 mm [5.9 to 24 in.]), any discontinuity in the lining exposes a small anode surface. Once corrosion starts, it progresses rapidly because of the large exposed alloy cathodic area to the much smaller anodic area. Without the lining, galvanic corrosion causes the steel to corrode at the weld area, but at a much slower rate. The recommended practice is to apply lining to all of the alloy as well as the steel, thereby eliminating the possible occurrence of a large-cathode-to-small-anode surface.

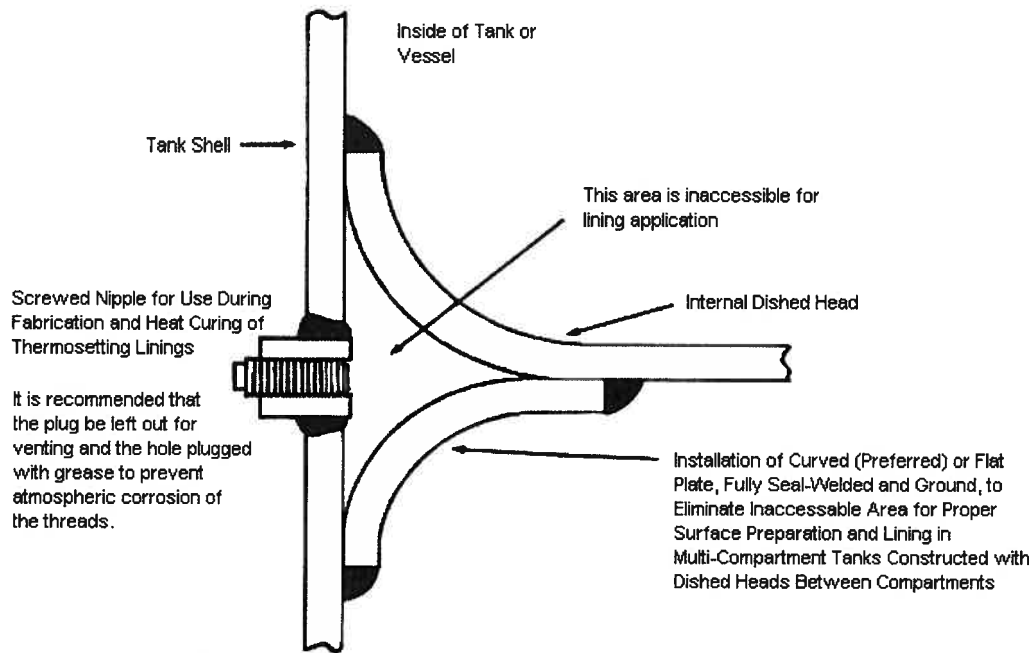


FIGURE A9

A technique (detail of fabrication) to allow for good continuity of lining application for inaccessible areas such as those in multicompartments tanks or vessels.

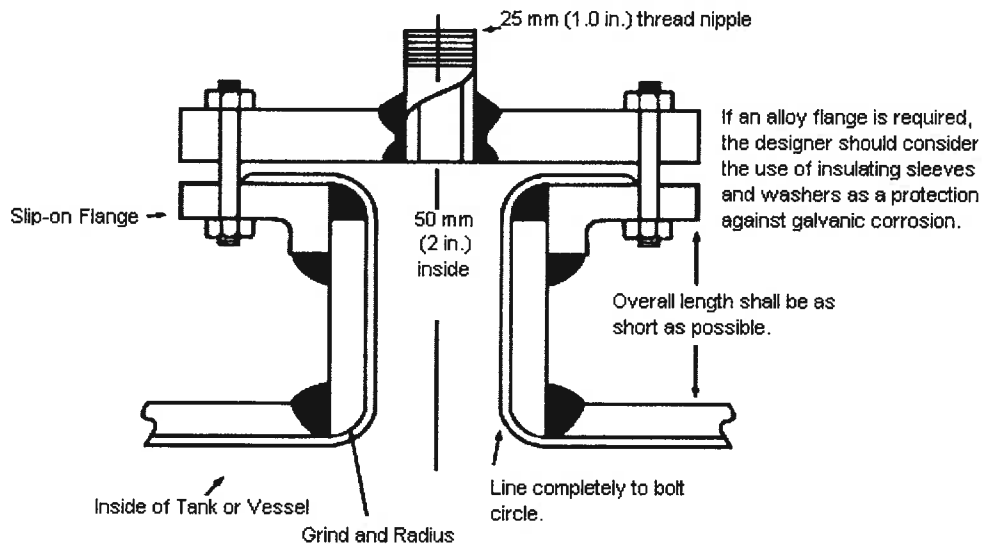


FIGURE A10

Minimum 50-mm (2-in.) diameter nozzle required for most thin-film linings. Thicker-film linings may require a larger-diameter nozzle. This diagram also illustrates fabrication practice where a threaded connection is required in a tank or vessel that requires a holiday-free lining.

APPENDIX B: Recommended Responsibilities

This appendix is a list of recommended responsibilities that should be assigned to the purchaser, designer, fabricator, lining applicator, and inspector in order to obtain a properly designed and fabricated tank or vessel for interior lining.

B1.1 Joint Responsibilities

B1.1.1 The purchaser, designer, fabricator, lining applicator, and inspector(s) should review and agree to the requirements involved before contractual agreements are made.

B1.1.2 The purchaser, in agreement with the fabricator and lining applicator, should assign responsibility for inspection of fabrication, surface finish, and lining application, and such responsibility should be defined in all contracts.

B1.2 Responsibilities of the Purchaser (Owner or User)

B1.2.1 The purchaser should be responsible for specifying and/or approving the detail requirements for design, fabrication, and surface finish to all parties concerned.

B1.2.1.1 The detailed requirements should be fully described in writing and include drawings of the tank or vessel to be fabricated and lined and service requirements.

B1.2.1.2 The purchaser should advise the designer, fabricator, lining applicator, and all inspectors of the detailed requirements, including time schedules, inspection, and acceptable requirements, in writing.

B1.3 Responsibilities of the Designer

B1.3.1 The designer should be responsible for including the required fabrication and surface details on all sketches and drawings related to the tank or vessel.

B1.4 Responsibilities of the Fabricator

B1.4.1 The fabricator should be responsible for adhering to the fabrication and surface finish details shown on the working drawings and described in the tank or vessel specifications.

B1.4.2 Responsibility for an inspection of the blast or any additional welding, grinding, or surface finishing that may be revealed by the surface preparation for lining, plus any subsequent reblasting, should be defined in the lining contract.

B1.4.3 The fabricator, when checking the quality of the weld, should use only those materials that can be readily and thoroughly removed by the fabricator after completion of the inspection procedure.




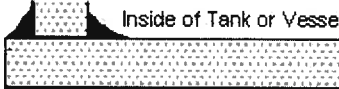

B1.5 Responsibilities of the Lining Applicator

B1.5.1 Responsibility for additional welding, grinding, or surface finishing that may be revealed by the surface preparation for lining, plus any subsequent reblasting, should be defined in the lining contract.

B1.6 Responsibilities of the Inspector(s)

B1.6.1 A qualified inspector whose qualifications and affiliation are acceptable to all parties should be responsible for the verification of fulfillment of design, fabrication, and surface finish requirements.



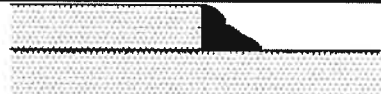

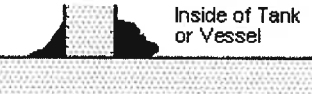




Appendix C—Written and Graphic Descriptions of Various Degrees of Surface Finishing of Welds That May Be Specified in Preparation for Lining of Tanks and Vessels^(A)

NACE Weld Preparation Designation	Type of Grinding	Butt Weld	Fillet Welded Tee Joint	Lap Weld
A	Ground flush and smooth; free of all defects. ^(B)	Weld spatter is removed and all surface imperfections are repaired as necessary. The weld is ground flush with the plate surface.	Not Applicable	Not Applicable
			Not Applicable	Not Applicable
B	Ground flush	Minor imperfections such as porosity and undercutting exist. The weld is ground flush with the plate surface.	Not Applicable	Not Applicable
			Not Applicable	Not Applicable
C	Ground smooth; free of all defects. ^(B)	Weld spatter is removed and all surface imperfections are repaired as necessary. The weld is ground smooth and blended into the plate surfaces.	Weld spatter is removed and all surface imperfections are repaired as necessary. The weld is ground smooth and blended into the plate surfaces.	Fillet weld between the two plates. Weld spatter is removed and all surface imperfections are repaired as necessary. The weld is ground smooth and blended into the plate surfaces.
				

^(A) The written descriptions of the various degrees of surface preparation of welds in the appendices of this standard take precedence over the graphics and the companion visual comparator. The graphics are only pictorial representations of welds and grinding finishes and are not intended to be representative of the integrity of the welds. The "weld condition prior to finishing" is not a typical weld; it is only intended to illustrate defects in welds that must be corrected prior to lining. Good welding practices and welding codes govern the integrity of the tank and vessel welds; this standard only addresses surface preparation of the welds for the purpose of lining the tank or vessel for immersion service.

The visual comparator mentioned in Appendix C is a molded plastic replica that illustrates various degrees of surface finishing for welds prior to coating or lining. Full-seam welds, skip welds, butt welds, lap welds, and others are depicted. For more information, contact the NACE International FirstService Department, 1440 South Creek Dr., Houston, Texas 77084-4906 (telephone +1 281/228-6200).

Appendix C (Continued)⁽¹⁾

NACE Weld Preparation Design	Type of Grinding	Butt Weld	Fillet Welded Tee Joint	Lap Weld
D	Ground smooth and blended. ⁽²⁾	Minor imperfections such as porosity and undercutting exist. Weld spatter is removed; welds are then ground smooth and blended into the plate surfaces.	Minor imperfections such as porosity and undercutting exist. Weld spatter is removed; welds are then ground smooth and blended into the plate surfaces.	Minor imperfections such as porosity and undercutting exist. Weld spatter is removed; welds are then ground smooth and blended into the plate surfaces.
				
E	Minimal	Sharp projections on the weld bead, slag, and weld spatter are removed.	Sharp projections on the weld bead, slag, and weld spatter are removed.	Sharp projections on the weld bead, slag, and weld spatter are removed.
				
Weld Condition Prior to Finishing				

⁽¹⁾ The written descriptions of the various degrees of surface preparation of welds in the appendix of this standard take precedence over the graphics and the companion visual comparator. The graphics are only pictorial representations of the welds and grinding finishes and are not intended to be representative of the integrity of the welds. The "as is" original weld is not a typical weld; it is only intended to illustrate defects in welds that must be corrected prior to coating and lining. Good welding practices and welding codes govern the integrity of the weld; this standard only addresses surface preparation of the welds for the purpose of coating and lining for immersion service.

⁽²⁾ Abrasive blasting in preparation for coating may reveal additional porosity and undercutting. Some applicators request the fabrication to blast the welds to reveal these imperfections prior to requesting inspection of the grinding by the lining applicator. Responsibility for repair of imperfections so revealed should be resolved in the pre-job conference.

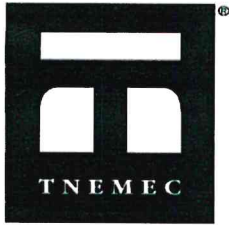
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SP0178-2007

**ISBN 1-57590-167-6
NACE International**

APPENDIX D

PAINT CHIP TEST RESULTS



Tnemec Co. Inc.
 101 W. 26th Ave
 North Kansas City, MO 64116
 1-800-TNEMEC1 (863-6321)
 1-816-326-4331
bweber@Tnemec.com

Chain of Custody Record

Office use only

COC Number: _____
 Project Number: 2953A
 Invoice Number: 2752843
Order # 1176960

Quote #: _____
 PO #: _____
 Project Due Date: _____

Customer Information

Name: Rodney Ellis
 Company: KLM Engineering, Inc.
 Address: 1976 Wooddale Dr. Suite 4
 City, State, Zip: Woodbury, MN 55125
 Email: rellis@klmengineering.com
 Sampler's Name: Mason Odone
 Signature: *Mason Odone*
 Phone #: 651-773-5111

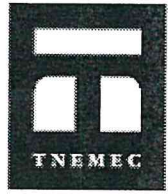
Location Information

Address: 6900 S.W. Crestwood Dr.
 City, State: Topeka, KS 66619
 Project Name: Topeka, KS ROV Evaluation
 Tank Information: 500,000-Gallon Legged Tower
 Project #: 5461-25

Sample Numbers		Sample Removal Data							Analysis Requested			
Lab Number	Customers Sample #	Date Collected	Time Collected	Type Paint Wipe Soil	Specific Location	Topcoat Color	<input checked="" type="checkbox"/> Interior	<input checked="" type="checkbox"/> Exterior	Dry <input checked="" type="checkbox"/> Interior	Lead (Pb)	Chromium (Cr)	FTIR (Coating Type)
1	1	10/15/2025	9:00am	Paint	Leg	Beige		X		X		
2	2	10/15/2025	9:00am	Paint	Interior Wet	Beige	X			X		
3	3	10/15/2025	9:00am	Paint	Shell	Beige		X		X		
4												
5												
6												
7												
8												

Samples Relinquished by:			Samples Received by:		
Signature	Date	Time	Signature	Date	Time
<i>Rodney Ellis</i>	10/21/25	9:30am	<i>[Signature]</i>	10/27/25	10:04

Project Name: Topeka, KS ROV Evaluation
City or County: Topeka
State: KS
Project Number: 5461-25
Name of Sampler: Mason Odone



Themec Inc. Co.
101 W. 26rd Ave.
North Kansas City, MO 64116
(816) 326-4500

Report Number : 2953A

Date Received : 10/27/2025

Date Issued : 10/30/2025

KLM Engineering

1976 Wooddale Dr Suite 4
Woodbury, MN 55125
Phone Number: 651-773-5111
Email: rellis@klmengineering.co

Themec Inc. Co.

Laboratory Analysis Report

Batch Number: 251030a

Lead Results

Accredited

Analyst: Casey McCartney

Sample Type: Paint

Batch ID 251030a

Sample Name	Sample Location	Analyte	Date Run	Instr. Results	Sample Weight	Dilution	Sample Results	Std Unit Value
2953S1	Exterior Leg	Lead (Pb) @ 405nm	10/30/2025	0.118 mg/L	0.2467 g	50 mL	<LLOQ µg/g	<LLOQ wt%



A2LA Cert #
6280.01

Project Name: Topeka, KS ROV Evaluation
City or County: Topeka
State: KS
Project Number: 5461-25
Name of Sampler: Mason Odone



Themec Inc. Co.
101 W. 26rd Ave.
North Kansas City, MO 64116
(816) 326-4500

Report Number : 2953A

Date Received : 10/27/2025

Date Issued : 10/30/2025

KLM Engineering

1976 Wooddale Dr Suite 4
Woodbury, MN 55125
Phone Number: 651-773-5111
Email: rellis@klmengineering.co

Themec Inc. Co.

Laboratory Analysis Report

Batch Number: 251030a

Lead Results

Accredited

Analyst: Casey McCartney

Sample Type: Paint

Batch ID 251030a

Sample Name	Sample Location	Analyte	Date Run	Instr. Results	Sample Weight	Dilution	Sample Results	Std Unit Value
2953S2	Interior Interior Wet	Lead (Pb) @ 405nm	10/30/2025	0.2032 mg/L	0.2429 g	50 mL	41.83 µg/g	0.004 wt%



A2LA Cert #
6280.01

Project Name: Topeka, KS ROV Evaluation
City or County: Topeka
State: KS
Project Number: 5461-25
Name of Sampler: Mason Odone



Tnemec Inc. Co.

Tnemec Inc. Co.
101 W. 26rd Ave.
North Kansas City, MO 64116
(816) 326-4500

Report Number : 2953A

Date Received : 10/27/2025

Date Issued : 10/30/2025

KLM Engineering

1976 Wooddale Dr Suite 4
Woodbury, MN 55125
Phone Number: 651-773-5111
Email: rellis@klmengineering.co

Laboratory Analysis Report

Batch Number: 251030a

Lead Results

Accredited

Analyst: Casey McCartney

Sample Type: Paint

Batch ID 251030a

Sample Name	Sample Location	Analyte	Date Run	Instr. Results	Sample Weight	Dilution	Sample Results	Std Unit Value
2953S3	Exterior Shell	Lead (Pb) @ 405nm	10/30/2025	10.52 mg/L	0.2359 g	50 mL	2231 µg/g	0.223 wt%



A2LA Cert #
6280.01

Project Name: Topeka, KS ROV Evaluation
 City or County: Topeka
 State: KS
 Project Number: 5461-25
 Name of Sampler: Mason Odone



Tnemec Inc. Co.

Tnemec Inc. Co.
 101 W. 26rd Ave.
 North Kansas City, MO 64116
 (816) 326-4500

Report Number : 2953A

Date Received : 10/27/2025

Date Issued : 10/30/2025

KLM Engineering

1976 Wooddale Dr Suite 4
 Woodbury, MN 55125
 Phone Number: 651-773-5111
 Email: rellis@klmengineering.co

Laboratory Analysis Report

Batch Number: 251030a

Supplementary Quality Assurance Information

Method	Instrument	Literature Reference
SOP TM900	Perkin Elmer 8300dv	U.S. EPA Method 6010

Analyte Name	ICS	LCS	MS	MSD	RPD _j
Pb 405.781	103.43%	93.49%	90.09%	88.66%	1.60%
Cr 357.869	112.32%	104.83%	-	-	-

Method Literature References

U.S. EPA 747-R-92-006: "Pb-Based Paint Laboratory Operations Guidelines: Analysis of Pb in Paint, Dust, and Soil"
 U.S. EPA. 2014. "Method 6010 (SW-846): Inductively Coupled Plasma-Atomic Emission Spectrometry,"
 Testing Meets NLLAP Requirments

Approved Signatory:

Perry Kilpatrick, Laboratory Manager

*Tnemec Laboratory did not collect these Samples: therefore, calculations and sampling information are based on client-supplied sampling data. Samples arrived in good condition unless otherwise noted.

j The bias and precision for this matrix batch may vary widely and not fall into NLLAP acceptance limits due to the non-homogenous nature of the sample used for the matrix.

This test report is issued by Tnemec Co. and is subject to its terms and conditions. This Test Report shall not be reproduced, except in full, without prior written consent of the Tnemec Co. Inc.

The results reported apply only to the specific samples submitted for testing.

Estimations of Uncertainty

Matrix	Pb 283.306	Pb 405.781	Pb 220.353	Cr 357.869	Cr 267.716
Paint	20.12%	14.99%	15.36%	7.30%	7.93%
Soil	9.76%	8.32%	7.86%	12.67%	11.98%
Wipe	11.24%	9.23%	9.90%	8.30%	8.38%

Abbreviations

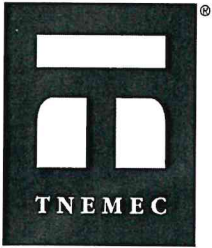
<LLOQ = Less than lower limit of quantitation

1 mg/L (one milligram per liter) = 1 mg/kg (one milligram per kilogram) = 1ppm (one part per million) = 1 µg/ml (one microgram per milliliter) = 1 µg/g (one microgram per gram)

On calculated parameters there may be a slight difference between summing the rounded values shown on the report vs the unrounded values used in the calculation.



A2LA Cert #
 6280.01



TNEMEC COMPANY, INC.
 123 West 23rd Avenue
 North Kansas City, MO
 64116 USA
 Tel +1 816-483-3400
 Fax +1 816-483-3401
 tnemec.com

Bill To:
 KLM ENGINEERING
 1976 WOODDALE DR
 STE. 4
 WOODBURY MN 55125

Sold To:
 KLM ENGINEERING
 1976 WOODDALE DR
 STE. 4
 WOODBURY MN 55125

Ship To:
 KLM ENGINEERING
 1976 WOODDALE DR
 STE. 4
 WOODBURY MN 55125 UNITED STATES



Duplicate Invoice	
Date : 10/28/25	Number : 2752843
Customer # : 13398	Territory : 104
Order # : 1176460	Terms : CASH
Price Agreement :	Tax Code :
Shipped Date : 10/28/25	FOB : SHIP POINT
Freight Terms :	Routing :
PO # : TOPEKA ROV EVALUATION	
Project :	

USD invoices only: To pay online in minutes, visit our payment portal at <https://tnemec.com/about/customer-portal/> or scan the QR code below.

To pay by mail*, please include your invoice or customer number on the check or remittance and mail checks to:

TNEMEC COMPANY INC
PO BOX 843797
DALLAS TX 75284-3797

*For safer, faster method of payment, we recommend paying via ACH using our secured payment portal.

Qty	Item	Description	Units	Billing UOM	Price	Extended Price
1	TAPb-PT01-UT	PAINT LEAD BY METH. SOP TM900	1.0000	EA	55.00	55.00
		TOPEKA, KS ROV EVALUATION - EXTERIOR LEG - LEAD AND CHROMNIUM				
1	TAPb-PT01-UT	PAINT LEAD BY METH. SOP TM900	1.0000	EA	55.00	55.00
		TOPEKA, KS ROV EVALUATION -INTERIOR WET - LEAD AND CHROMNIUM				
1	TAPb-PT01-UT	PAINT LEAD BY METH. SOP TM900	1.0000	EA	55.00	55.00
		TOPEKA, KS ROV EVALUATION - EXTERIOR SHELL - LEAD AND CHROMNIUM				

These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. Government or as otherwise authorized by U.S. law and regulations.

All claims for damages in transit or shortage must be filed with the carrier. Terms and conditions of sale are presented on the reverse side hereof. Any and all additional or different terms shall not become part of the contract between Tnemec and you. Your acceptance of the goods will be considered an acceptance and assent to the terms on the reverse side hereof.

Subtotal	165.00
Total Tax	0.00
Order Total	165.00
Currency	USD
Due Date	10/28/25

Bidders Name: _____

**DOCUMENT 330
BID FORM**

TO: The City of Topeka, Kansas
Contracts & Procurement Division
215 S.E. 7th St., Room 60
Topeka, Kansas 66603

Project No. and Description: Clean, Repair, Paint Montara South Water Tower 281215.01, 281307.01, 281308.01, 281337.01.

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for sixty (60) days after the day of Bid opening. Bidder will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within ten days after receipt of the award of contract and Contract Documents from the Owner.
3. In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:
 - a. Bidder has examined copies of all the bidding Documents and of the following Addenda (receipt of all which is hereby acknowledged):

Date	Number
_____	_____
_____	_____
_____	_____
_____	_____

- b. Bidder has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
 - c. Bidder has studied carefully all reports and drawings of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in paragraph 4.2 of the General Conditions, and accepts the determination set forth

in the Supplementary Conditions (if applicable) of the extent of the technical data contained in such reports and drawings upon which Bidder is entitled to rely.

d. Bidder has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests and studies (in addition to or to supplement these referred to in (c) above) which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work as Bidder considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.2 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports or similar information or data are or will be required by Bidder for such purposes.

e. Bidder has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said Underground Facilities are or will be required by Bidder in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.

f. Bidder has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

g. Bidder has given Engineer (either the Design Engineer or the City Engineer as defined in Article 2 of the Agreement) written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Bidder.

h. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other bidder or over Owner.

Project No. and Description: Clean, Repair, Paint Montara South Water Tower 281215.01, 281307.01, 281308.01, 281337.01.

4. Bidder will complete the Work for the following price(s):

TOPEKA, KANSAS
MONTARA SOUTH WATER TOWER
BID TABLE

BASE BID

BID ITEM NO.	ITEM DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT
1	Structure Modifications	1	Lump Sum		
2	Surface Repairs	150	Man-Hrs		
3	Interior Wet Area Abrasive Blast & Coating	1	Lump Sum		
4	Exterior Area Abrasive Blast & Coating & Containment	1	Lump Sum		
5	Mobilization	1	Lump Sum		
BASE BID					

TOTAL BID \$ _____

5. Quantities are estimated. Final payment will be based on actual quantities unless otherwise stated in the Contract Documents.
6. Bidder agrees that the Work will be substantially complete in accordance with the time requirements given in the Agreement and General Conditions.
7. Bidder accepts the provisions of the Agreement for Liquidated Damages in the event of failure to complete the work on time.
8. The following documents are attached to and made a condition of this Bid:
 - a. Required Bid Security in the form of a certified or bank check or a bid bond in accordance with the provisions of the Instructions to Bidders.
 - b. List of Subcontractors; Costs and Suppliers.
9. The terms used in this Bid which are defined in the General Conditions included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

SUBMITTED on _____, 20 _____.

 Name of Bidder a(n) _____
 (individual, partnership, corporation)

 Address of Bidder

 Telephone Number

By: _____, (Corporate Seal)
 Authorized Person

 Title

Project Number: _____

Contractor's Name: _____

List of Subcontractors; Costs

The Bidder is required to identify each Subcontractor and the Subcontractor's cost. Do not list alternate subcontractors for the same work. The Contractor shall list only one subcontractor for each such portion of Work as is defined by the Contractor in his bid. Contractor shall not substitute any person as subcontractor in the place of a subcontractor listed below, except as provided in Document 100.

The Bidder understands that if Bidder fails to specify a subcontractor for any portion of the Work to be performed under the contract or specifies more than one subcontractor for the same portion of the Work, Bidder shall be deemed to have agreed that Bidder is fully qualified to perform that portion and cannot sublet or subcontract that portion of the Work, except as provided in Document 100.

Subcontractor: _____
Amount: _____ (\$ _____)
(words)

Subcontractor: _____
Amount: _____ (\$ _____)
(words)

Subcontractor: _____
Amount: _____ (\$ _____)
(words)

Subcontractor: _____
Amount: _____ (\$ _____)
(words)

Subcontractor: _____
Amount: _____ (\$ _____)
(words)

Subcontractor: _____
Amount: _____ (\$ _____)
(words)

Project Number: _____

Contractor's Name: _____

List of Suppliers (cont.)

Each Supplier performing more than _____% of the Total Bid shall also be furnished. . Do not list alternate suppliers for the same work.

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Supplier Name: _____
Material: _____

Performance Bond

Any singular reference to Contractor, Surety, Owner of other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address): City of Topeka
215 SE 7th Street
Topeka, KS 66603

CONTRACT

Date:

Amount:

Description (Name and Location): Clean, Repair, Paint Montara South Water Tower 281215.01, 281307.01, 281308.01, 281337.01.

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, which is incorporated herein by reference.

2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.

3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:

3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and

3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and Surety have received notice as provided in paragraph 3.1; and

3.3. The OWNER has agreed to pay the Balance of the Contract Price to:

3.3.1. The Surety in accordance with the terms of the Contract;

3.3.2. Another contractor selected pursuant to paragraph 4.3 to perform the Contract.

4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or

4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or

4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;

4.4.1. After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or

4.4.2. Deny liability in whole or in part and notify the OWNER citing reasons therefor.

5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied liability, in

whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:

6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;

6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and

6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.

7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.

8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

12.1. Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.

12.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY---Name, Address and Telephone)
AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer or other party):

Payment Bond

Any singular reference to Contractor, Surety, Owner of other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address): City of Topeka
215 SE 7th Street
Topeka, KS 66603

CONTRACT

Date:

Amount:

Description (Name and Location): Clean, Repair, Paint Montara South Water Tower 281215.01, 281307.01, 281308.01, 281337.01.

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default.

3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with the CONTRACTOR:

1. Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

2. Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.

5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER's priority to use the funds for the completion of the Work.

9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS.

15.1. Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

15.3. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY---Name, Address and Telephone)
AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer or other party):