INVITATION FOR BIDS

PROJECT PH20-V64; WA02-25

CONSTRUCTION OF MANHOLE REHABILITATION

NORTH AND WEST COCOPAH INDIAN RESERVATION

YUMA COUNTY, ARIZONA

October 2025

MANHOLE REHABILITATION
NORTH AND WEST COCOPAH INDIAN RESERVATION
YUMA COUNTY, ARIZONA

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ADVERTISEMENT FOR BIDS

COCOPAH INDIAN TRIBE
YUMA COUNTY, ARIZONA
MANHOLE REHABILITATION

GENERAL NOTICE

The Cocopah Indian Tribe (Owner) is requesting Bids for the construction of the following Project:

Manhole Rehabilitation
PH20-V64; WA02-25

Bids for the construction of the Project will be received at the **Cocopah Indian Tribe's Tribal Headquarters located at 14515 S. Veterans Drive, Somerton, AZ 85350 within the Cocopah West Reservation**, until **Tuesday, November 18, 2025 at 11:00 AM** local time. At that time the Bids received will be publicly opened and read at the Cocopah Indian Tribe's Arts and Crafts Room in the Cultural Center Building located at **14529 Veterans Pl, Somerton, AZ 85350. The location coordinates for the Cocopah Tribal Headquarters are:** (32.615840478594, -114.767627433186).

The Project includes the following Work:

Manhole rehabilitation activities across the Cocopah Reservation including 12 manholes in North Cocopah and 37 in West Cocopah. Rehabilitation activities include, but are not limited to manhole cleaning and debris removal, installation of coating systems on manhole benches and adjustment rings, PVC sheet liner removal, PVC sheet liner welding repairs, manhole bench rebuilds, and replacement, adjustment or rehabilitation of manhole frames and covers.

Bids are requested for the following Contract: **PH20-V64; WA02-25, Manhole Rehabilitation.**

The Project has a performance period of 130 days. The construction performance period shall commence no later than December 18, 2025.

Information and Bidding Documents named "PH20-V64: WA02-25, Manhole Rehabilitation" for the Project can be found at the following Owner website:

https://www.cocopah.com/business-opportunities.html

Pre-bid Conference

A non-mandatory in-person and virtual pre-bid conference will be held on **Tuesday, October 28, 2025 at 11:00 AM** Local Time at the Cocopah Indian Tribe's Arts and Crafts Room in the Cultural Center Building located at **14529 Veterans Pl, Somerton, AZ 85350.** Site visits to manholes of interest in West Cocopah will take place after the pre-bid meeting. For virtual meeting details contact Joel Garcia, IHS Project Engineer, at Joel.garcia@ihs.gov.

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Instructions to Bidders

For all further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders that are included in the Bidding Documents.

This Advertisement is issued by:

Owner: **Cocopah Indian Tribe**
By: **Rudy Alcala**
Title: **Cocopah Public Works Director**
Date: **October 20, 2025**
Email: Alcalar@cocopah.gov

Note to Bidders

This following is provided to accompany the re-advertisement of the Manhole Rehabilitation Project IHS PH19-V64 WA02-25 for the Cocopah Indian Tribe. The project is being re-advertised to ensure that all prospective bidders have a clear understanding of the project scope, level of effort, and expectations. No scope of work has been reduced; revisions are limited to improving clarity, consistency, and alignment between the Bid Schedule and Technical Provisions.

Bid Schedule Revisions

The Bid Schedule has been revised to improve clarity and consistency with Section 08 of the Technical Provisions. Items were renamed or consolidated to clearly represent the intended scope of work. These revisions do not change the overall project scope, but are intended to align closer with Technical Provisions and provide a clearer understanding of the expected level of effort for each pay item.

Technical Provisions (Section 08 – Manhole Rehabilitation) Revisions

The following summarizes key revisions to Section 08 of the Technical Provisions, referenced by section:

TP 08.01 – Scope

Existing manholes have T-Lock PVC sheet liner systems in place and rehabilitation includes PVC weld repairs of these liners and application of approved coating systems only on unlined raw surfaces. Therefore, coating systems are limited to manhole benches/inverts and the adjustment rings (up to approximately 13 inches per manhole). Entire manholes are not being recoated.

TP 08.06 – Coating System Execution

Revised to rely on manufacturer requirements for surface preparation, underlayment, and coating application. Removed 2-hour time frame requirement and added statement that coating must follow surface preparation promptly, and in no case exceed the manufacturer's maximum allowable interval without re-cleaning.

TP 08.06.B. – Manhole Cleaning and Debris Removal

Clarified the expected level of effort. Heavy cleaning is not anticipated; cleaning is limited to what is necessary to perform rehabilitation work. Aboveground bypassing is not required or expected.

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TP 08.11 – Testing

Reorganized for clarity. Removed the contingency adhesion testing bid item - the Owner does not anticipate additional adhesion tests beyond those specified. Visual inspection, adhesion, holiday/spark, and film thickness testing remain part of quality assurance and are incidental to other pay items. Holiday/spark and adhesion testing required at every fifth manhole.

TP 08.15 – Warranty

Reduced warranty from two years to one year, aligning with standard contract provisions. Contractor remains responsible for all materials, labor, and repairs of coating or weld failures identified within the warranty period.

TP 08.16 – Measurement and Payment

Rewritten to fully align with the revised Bid Schedule. Each pay item now clearly defines included work, labor, materials, and testing. Consolidated line items and clarified scope for:

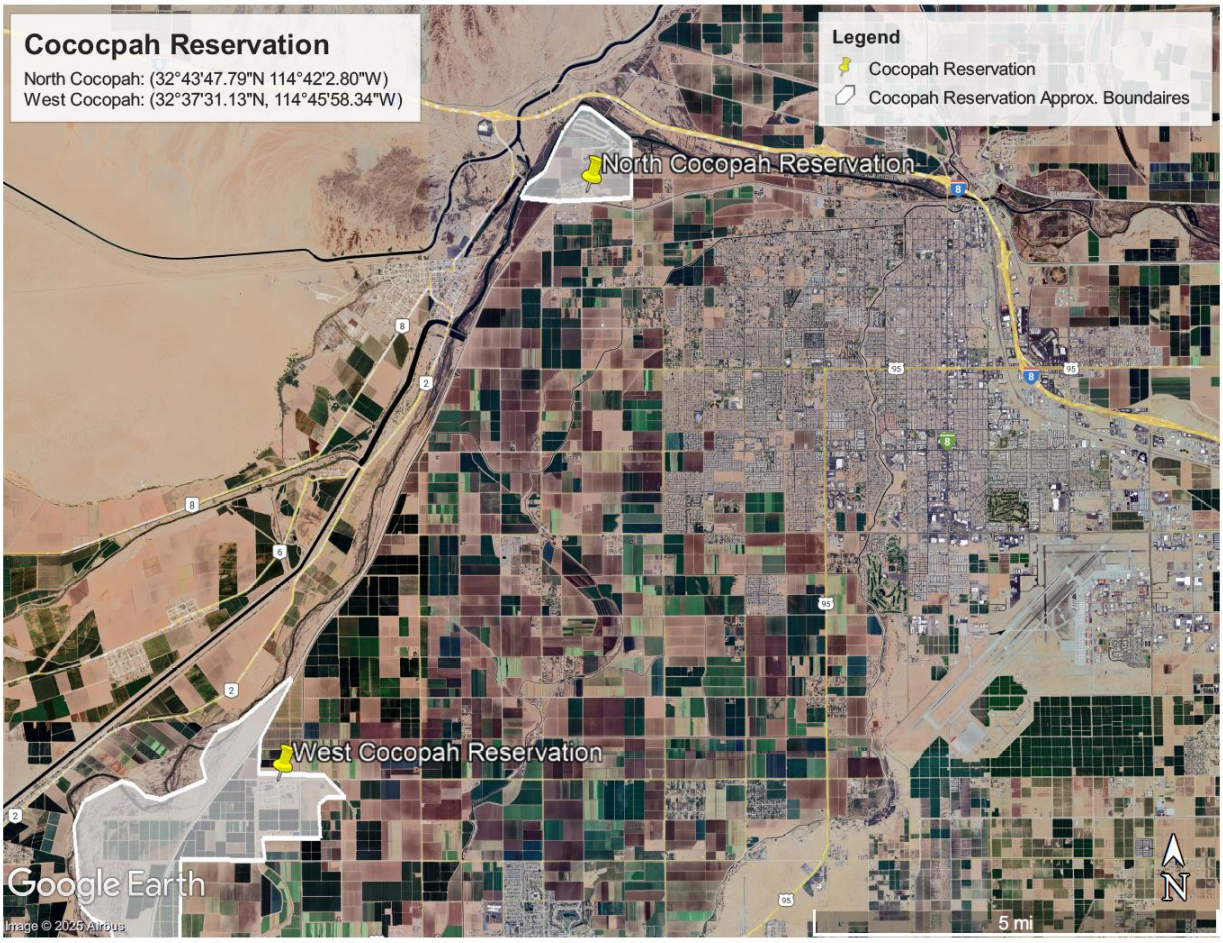
- Coat Bench/Invert and Coat Adjustment – payment per manhole, includes cleaning, coating, underlayment, testing, and cleanup.
- PVC Liner Removal – payment per manhole, includes removal, disposal, and re-preparation of surfaces.

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LOCATION MAP

YUMA COUNTY, ARIZONA

COCOPAH NORTH AND WEST RESERVATIONS



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REFERENCE SHEET

Project Title:	Cocopah Manhole Rehabilitation Project
Project Scope:	Manhole rehabilitation activities across the Cocopah Reservations including 12 manholes in North Cocopah and 37 in West Cocopah.
Project Location:	Cocopah North and West Reservations Yuma County, Arizona
OWNER Contacts:	Cocopah Indian Tribe Rudy Alcala, Public Works Director alcalar@cocopah.gov Office: (928) 627-2102 EXT:7504 Cell: (928) 210-1807
OWNER'S Address:	Cocopah Public Works Department 9803 W Veterans Place, Somerton, AZ 85350
ENGINEER Contact:	Indian Health Service Office of Environmental Health and Engineering Western Arizona District Office 1553 West Todd Drive, Suite 104 Tempe, AZ 85283 Joel Garcia IHS Project Engineer Joel.Garcia@ihs.gov (480) 466-7825
Project:	PH20-V64, WA02-25
Pre-Bid Conference:	Tuesday, October 28, 2025 at 11:00AM
Submittal Deadline:	Tuesday, November 18, 2025 at 11:00AM
Bonds:	Bid Bond or Certified Check (5%), Performance Bond (100%), Payment Bond (100%)
Contract Time:	130 days
Liquidated Damages:	$500/day Substantial Completion $250/day Completion of Remaining Work

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INSTRUCTIONS TO BIDDERS

Article 1—**DEFINED TERMS**

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office*—The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. For this project, a bid package may be obtained by contacting Rudy Alcala, Cocopah Public Works Department, at (928) 672-0616 Ext. 7504 or by email at alcalar@cocopah.gov.

Article 2—**BIDDING DOCUMENTS**

2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.

2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or re. Printed documents may not be re-sold under any circumstances.

2.03 *Electronic Documents*

A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.

1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version **2020** or later. It is the intent of the Engineer, Owner and Owner's Consultant (Matrix New World Engineering) that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner, Engineer and Owner's Consultant cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of re of such documents, the Owner, Owner's Consultant and Engineer cannot and do not guarantee that Electronic Documents and res prepared from those versions are identical in every manner to the paper copies.

B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in

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Paragraph 2.03.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and res prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

Article 3—**QUALIFICATIONS OF BIDDERS**

3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within **15** days of Owner's request, Bidder must submit the following information:

A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.

B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.

C. Bidder's state or other contractor license number, if applicable.

D. Subcontractor and Supplier qualification information.

E. Other required information regarding qualifications.

3.02 [DELETED]

3.03 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.04 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

Article 4—**PRE-BID CONFERENCE**

4.01 A non-mandatory in-person and virtual pre-bid conference will be held at the time and location indicated in the Advertisement to bid. For virtual meeting details contact Joel Garcia, IHS Project Engineer, at joel.garcia@ihs.gov. Representatives of Owner, Owner's Consultant and Engineer will at the pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum. Owner

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will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.

4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions.

Article 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 *Site and Other Areas*

A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:

a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.

b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.

c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.

d. Technical Data contained in such reports and drawings.

2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

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5.03 *Other Site-related Documents*

A. In addition to the documents regarding existing Site conditions referred to in Paragraph 5.02.A, the following other documents relating to conditions at or adjacent to the Site are known to Owner and made available to Bidders for reference:

1. [DELETED]

Owner will make copies of these other Site-related documents available to any Bidder on request.

B. Owner has not verified the contents of these other Site-related documents, and Bidder may not rely on the accuracy of any data or information in such documents. Bidder is responsible for any interpretation or conclusion Bidder draws from the other Site-related documents.

C. The other Site-related documents are not part of the Contract Documents.

D. Bidders are encouraged to review the other Site-related documents, but Bidders will not be held accountable for any data or information in such documents. The requirement to review and take responsibility for documentary Site information is limited to information in (1) the Contract Documents and (2) the Technical Data.

E. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.

B. A Site visit is scheduled following the pre-bid conference. Maps to the Site will be available at the pre-Bid conference.

C. A site visit is scheduled to take place following the pre-construction meeting.

D. Maps to the Site will be made available upon request.

E. Bidders visiting the Site are required to arrange their own transportation to the Site.

F. All access to the Site, other than during a regularly scheduled site visit, must be coordinated through the following Owner or Engineer. The contact for visiting the Site are: **Rudy Alcala, Public Works Director, (928) 627-0616 ext. 7504 or by email at alcalar@cocopah.gov.** Bidder must conduct the required Site visit during normal working hours.

G. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.

H. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such

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access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.

I. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.

J. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 *Other Work at the Site*

A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

Article 6—**BIDDER'S REPRESENTATIONS AND CERTIFICATIONS**

6.01 *Express Representations and Certifications in Bid Form, Agreement*

A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.

B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

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Article 7—**INTERPRETATIONS AND ADDENDA**

7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.

7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Owner's Consultant and Engineer in writing. Contact information and submittal procedures for such questions are as follows:

A. All requests for information (RFI), questions and submittals should be directed through email to Rudy Alcala, Cocopah Public Works Director (Alcalar@cocopah.gov) and a copy sent to Joel Garcia, Indian Health Service Field Engineer (Joel.Garcia@ihs.gov). Submissions must be made no later than November 4, 2025 4:00 PM Arizona Time. RFIs and their answers will be formatted, made anonymous, and shared with all prospective bidders within three (3) calendar days of the submission deadline.

7.03 Interpretations or clarifications considered necessary by Owner's Consultant and Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.

7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

Article 8—**BID SECURITY**

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of **five** percent of Bidder's maximum Bid price and in the form of a certified check or a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.

8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.

8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the

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Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

Article 9—**CONTRACT TIMES**

9.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

9.02 Provisions for liquidated damages, if any, for failure to timely attain Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

Article 10—**SUBSTITUTE AND "OR EQUAL" ITEMS**

10.01 The Contract for the Work, as awarded, basis of materials and equipment specified or described in the Bidding Documents, and those "or-equal" or substitute materials and equipment subsequently approved by Engineer, with assistance from Owner's Consultant, prior to submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an "or-equal" or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least 15 days prior to the date for receipt of Bids in the case of a proposed substitute and 5 days prior in the case of a proposed "or-equal." Each such request shall comply with the requirements of Paragraphs 7.05 and 7.06 of the General Conditions. The burden of proof of the merit of the proposed item is upon the Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner. Substitutes and "or-equal" materials and equipment may be proposed by Contractor in accordance with Paragraphs 7.05 and 7.06 of the General Conditions after the Effective Date of the Contract.

10.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

10.03 If an award is made, Contractor shall be allowed to submit proposed substitutes and "or-equals" in accordance with the General Conditions.

Article 11—**SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

11.01 [DELETED]

11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work within five days after Bid opening:

A. [DELETED]

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11.03 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

11.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

11.05 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

11.06 The Contractor shall not award work to Subcontractor(s) in excess of the limits stated in SC 7.07.N.

Article 12—**PREPARATION OF BID**

12.01 The Bid Form is included with the Bidding Documents.

A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.

B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."

12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.

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12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.

12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.

12.06 A Bid by an individual must show the Bidder's name and official address.

12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.

12.08 All names must be printed in ink below the signatures.

12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.

12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.

12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.

12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

Article 13—**BASIS OF BID**

13.01 *Unit Price*

A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.

B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

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Article 14—**SUBMITTAL OF BID**

14.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.

14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.

14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

Article 15—**MODIFICATION AND WITHDRAWAL OF BID**

15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.

15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.

15.03 If within 24 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 its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

Article 16—**OPENING OF BIDS**

16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

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Article 17—**BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

Article 18—**EVALUATION OF BIDS AND AWARD OF CONTRACT**

18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.

18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.

18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.

18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.

18.05 *Evaluation of Bids*

A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.

18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

18.07 *In evaluation of the bids, the Owner may, within funding limitations, give preference in the amount of five (5) percent above the lowest total bid, to qualified Indian owned firms.*

Article 19—**BONDS AND INSURANCE**

19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any),

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and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.

19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

Article 20—**SIGNING OF AGREEMENT**

20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

Article 21—**SALES AND USE TAXES [DELETED]**

Article 22—**CONTRACTS TO BE ASSIGNED [DELETED]**

Article 23—**FEDERAL REQUIREMENTS**

23.01 *Federal requirements at Article 19 of the Supplementary Conditions apply to this Contract.*

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BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

Cocopah Indian Tribe
ATTN: Rudy Alcala
Address: 14515 S. Veterans Drive, Somerton, AZ 85350

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

Article 2—**ATTACHMENTS TO THIS BID**

2.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security;

B. A copy of a valid CONTRACTOR's license for the state in which the work resides, at the time of bidding or Certification of Renewal;

C. Bidders claiming Indian Preference must attach a properly completed "Indian Owned Economic Enterprise Qualification Statement" to this bid. Failure to submit this form will void the Bidder's claim for Indian Preference. The "Indian Enterprise Qualification Statement" form is available in Exhibit B of this bid package.

D. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;

E. A copy of certification letter from the manufacturer of the Coating System (i.e., one of the approved products listed in the Technical Provisions) that the applicator intends to install in the manholes. The certification letter shall state that the coating applicator has been trained and is certified and approved by the manufacturer to apply the manufacturer's coating in sewer manholes

Article 3—**BASIS OF BID—UNIT PRICES**

3.01 *Unit Price Bids*

A. Bidder will perform the following Work at the indicated unit prices:

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BID TABLE (REVISED 10/2025)
Cocopah Indian Tribe
Manhole Rehabilitation, Yuma County, Arizona
PH20-V64; WA02-25

Item No.	Description	TP. Ref.	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization / Demobilization	TP-01	LS	1		
2	Manhole Cleaning & Debris Removal	TP-08	EA	49		
3	Frame & Cover Replacement	TP-06, 08	EA	6		
4	Raise Frame and Cover to Grade	TP-08	EA	2		
5	Bolt Replacement on Covers	TP-08	EA	8		
6	PVC Liner Removal on Bench or Adjustment	TP-08	EA	9		
7	Coat Adjustments (up to 13 vertical inches per manhole)	TP-08	EA	30		
8	Coat Bench/Invert	TP-08	EA	45		
9	Rebuild Manhole Bench & Invert	TP-06, 08	EA	5		
10	PVC Welding (Per Manhole)	TP-08	EA	24		
					SUBTOTAL	
					TOTAL BASE BID AMOUNT	
ADDITIVE ALTERNATE BID ITEMS						
1	Coat Adjustments*	TP-08	EA	--		
2	Coat Bench/Invert*	TP-08	EA	--		
3	Frame & Cover Replacement*	TP-08	EA	--		

**Contractor shall provide unit price for each additive alternative. If funding allows, the Owner may determine the additional quantities and award work through the formal change order process at the specified unit price.*

B. Bidder acknowledges that:

1. Each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and

2. Estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

3.02 Total Bid Price Unit Prices

Total Bid Price (Total of Unit Price Bids)	$

Article 4—**TIME OF COMPLETION**

4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

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Article 5—**BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA**

5.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda: **[Bidder is to complete table.]**

Addendum Number	Addendum Date

Article 6—**BIDDER'S REPRESENTATIONS AND CERTIFICATIONS**

6.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.

2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and

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observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

3. Bidder has not solicited or induced any individual or entity to refrain from bidding.

4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:

a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

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c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.

d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

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BIDDER hereby submits this Bid as set forth above:

Bidder:

_____

(typed or printed name of organization)

By: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____

(individual's signature)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Date: _____

(typed or printed)

Address for giving notices:

_____

_____

Bidder's Contact:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Phone: _____

Email: _____

Address:

_____

_____

_____

Bidder's Contractor License No.: (if applicable) _____

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BID BOND (PENAL SUM FORM)

Bidder Name: Address *(principal place of business)*:	**Surety** Name: Address *(principal place of business)*:
Owner Name: **Cocopah Indian Tribe** Address *(principal place of business)*: **14515 S. Veterans Drive, Somerton, AZ 85350**	**Bid** Project *(name and location)*: **Manhole Rehabilitation** **PH20-V64; WA02-25,** **North and West Cocopah Indian Reservation,** **Yuma County, AZ** Bid Due Date:
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder _____ *(Full formal name of Bidder)*	Surety _____ *(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature) (Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title:	Title:
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

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1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
    3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
    3.2. All Bids are rejected by Owner, or
    3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

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INDIAN OWNED EXONOMIC ENTERPRISE QUALIFICATION STATEMENT

The Undersigned certifies under oath the truth and correctness of all responses set out below as follows:

1. Name of Enterprise: _____

   Address: _____

   Telephone #: _____

2. Check one:

   _____ Corporation _____ Joint Venture

   _____ Partnership _____ Other:

   _____ Sole Proprietorship

3. Answer the following:

   A. If a Corporation:

      i. Date of incorporation: _____

      ii. State of incorporation: _____

      iii. Name & address of statutory agent: _____

      _____

      _____

      _____

      iv. Give the name and address of the officers and members of the Board of Directors of this Corporation and establish whether they are Indian (I) or Non-Indian (NI). Proof of Tribal Membership in a federally recognized Indian Tribe is required for all responses.

Name and Social Security No.	I or NI	Title	Address	% of Stock Ownership
		President		

		Vice-President		
		Sec/Clerk		
		Treasurer		

v. Complete the following information on all stockholders who are not listed above, owning 5% or more of the stock. Establish whether they are Indian (I) or Non-Indian (NI).

Name and Social Security No.	I or NI	Address	% of Stock Ownership

B. If a Sole Proprietorship or Partnership:

i. Date of Organization: _____

ii. Give the following information on the individual or partners and establish whether they are Indian (I) or Non-Indian (NI).

Name and Social Security No.	I or NI	Address	% of Stock Ownership

C. If a Joint Venture:

i. Date of Joint Venture Agreement: _____

ii. Attach the information for each member of the joint venture prepared in the appropriate format given above.

4. Give the name, address, and telephone number of the principle spokesperson of your organization:

_____

_____

5. Has this enterprise been certified as an Indian Owned Economic Enterprise by any government or Tribal agency to qualify for special consideration under Indian preference contract clauses, or been awarded contracts by any government or Tribal agency based on Indian preference consideration?

Yes _____ No _____

A. If yes, complete:

Contract Date	Contracting Agency	Contract No.	Location of Work

6. Will any officer or partner listed in #3 be engaged in outside employment?

Yes _____ No _____

A. If yes, complete:

Name	Outside Employment	Hours/Week

7. Does this enterprise have any subsidiaries or affiliates or is it a subsidiary or affiliate of another concern?

   Yes _____ No _____

   A. If yes, complete:

Name and address of subsidiary affiliate or other concern	Description of Relationship

8. Does this enterprise or any person listed in #3 above have or intended to enter into any type of agreement with any other concern or person which relates to or affects the on-going administration, management or operations of this enterprise? These include but are not limited to management, and joint venture agreements and any arrangement or contract involving the provision of such compensated services as administrative assistance, data processing, management consulting of all types, marketing, purchasing, production and other type of compensated assistance.

   Yes _____ No _____

   A. If yes, attach a copy of any written agreement or an explanation of any oral or intended agreement.

9. Attach certification by a Tribe or other evidence of enrollment in a federally recognized Tribe for each officer, partner or individual designated as an Indian in #3.

10. Attach a certified copy of the charter, articles of incorporation, by-laws, partnership agreement, joint venture agreement and/or other pertinent organizational documentation.

11. Explain in narrative form the stock ownership, structure, management, control, financing, and salary or profit sharing arrangements of the enterprise, if not covered in answers to specific questions heretofore. Attach copies of all shareholder agreements, including voting trust, employment contracts, agreements between owners and enterprise. Include information on salaries, fees, profit sharing, material purchases, and equipment lease or purchase agreements. Evidence relating to structure, management, control, and financing should be specifically included. Also, list the specific management responsibilities of each principal, sole proprietor, partner, or party to a joint venture (as appropriate) listed in response to #3.

NOTE:

- ✧ Omission of any information may be cause for rejection of claim for Indian Preference.
- ✧ The persons signing below certify that all information in this INDIAN OWNED ECONOMIC ENTERPRISE QUALIFICATION STATEMENT, including exhibits and attachments, is true and correct.
- ✧ Print and type name below all signatures.

If applicant is Sole Proprietor, Sign Below:

_____ _____

Name Date

If applicant is in a Partnership or Joint Venture, all Partners must sign below:

_____ _____

Name Date

_____ _____

Name Date

If applicant is a Corporation, affix corporate seal:

_____ _____

Corporate Seal Date

By: _____

President's Signature

Attested by: _____

Corporate Secretary's Signature

WARNING:

U.S. Criminal Code, Section 1010, Title 18, U.S.C. provides in part: "Whoever...makes, passes, utters, or publishes any statement, knowing the same to be false...shall be fined not more than $5000 or imprisoned not more than two years, or both."

QUALIFICATION STATEMENT

ARTICLE 1—General Information

1.01 Provide contact information for the Business:

Legal Name of Business:			
Corporate Office			
Name:		Phone number:	
Title:		Email address:	
Business address of corporate office:			
Local Office			
Name:		Phone number:	
Title:		Email address:	
Business address of local office:			

1.02 Provide information on the Business's organizational structure:

Form of Business:	☐ Sole Proprietorship ☐ Partnership ☐ Corporation		
☐ Limited Liability Company ☐ Joint Venture comprised of the following companies:			
	1.		
	2.		
	3.		
Provide a separate Qualification Statement for each Joint Venturer.			
Date Business was formed:		State in which Business was formed:	
Is this Business authorized to operate in the Project location?	☐ Yes ☐ No ☐ Pending		

1.03 Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	

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Address:			
Name of business:		Affiliation:	
Address:			

1.04 Provide information regarding the Business's officers, partners, and limits of authority.

Name:		Title:	
Authorized to sign contracts: ☐ Yes ☐ No		Limit of Authority:	$
Name:		Title:	
Authorized to sign contracts: ☐ Yes ☐ No		Limit of Authority:	$
Name:		Title:	
Authorized to sign contracts: ☐ Yes ☐ No		Limit of Authority:	$
Name:		Title:	

ARTICLE 2—LICENSING

2.01 Provide information regarding licensure for Business:

Name of License:			
Licensing Agency:			
License No:		Expiration Date:	
Name of License:			
Licensing Agency:			
License No:		Expiration Date:	

ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

3.01 Provide information regarding Business's Diverse Business Certification, if any. Provide evidence of current certification.

Certification	Certifying Agency	Certification Date
☐ Disadvantaged Business Enterprise		
☐ Minority Business Enterprise		
☐ Woman-Owned Business Enterprise		
☐ Small Business Enterprise		
☐ Disabled Business Enterprise		
☐ Veteran-Owned Business Enterprise		

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☐ Service-Disabled Veteran-Owned Business			
☐ HUBZone Business (Historically Underutilized) Business			
☐ Other			
☐ None			

ARTICLE 4—SAFETY

4.01 Provide information regarding Business's safety organization and safety performance.

Name of Business's Safety Officer:		
Safety Certifications		
Certification Name	Issuing Agency	Expiration

4.02 Provide Worker's Compensation Insurance Experience Modification Rate (EMR), Total Recordable Frequency Rate (TRFR) for incidents, and Total Number of Recorded Manhours (MH) for the last 3 years and the EMR, TRFR, and MH history for the last 3 years of any proposed Subcontractor(s) that will provide Work valued at 10% or more of the Contract Price. Provide documentation of the EMR history for Business and Subcontractor(s).

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH

ARTICLE 5—FINANCIAL

5.01 Provide information regarding the Business's financial stability. Provide the most recent audited financial statement, and if such audited financial statement is not current, also provide the most current financial statement.

Financial Institution:		
Business address:		
Date of Business's most recent financial statement:		☐ Attached
Date of Business's most recent audited financial statement:		☐ Attached
Financial indicators from the most recent financial statement		

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Contractor's Current Ratio (Current Assets ÷ Current Liabilities)	
Contractor's Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)	

ARTICLE 6—SURETY INFORMATION

6.01 Provide information regarding the surety company that will issue required bonds on behalf of the Business, including but not limited to performance and payment bonds.

Surety Name:			
Surety is a corporation organized and existing under the laws of the state of:			
Is surety authorized to provide surety bonds in the Project location?	☐ Yes ☐ No		
Is surety listed in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury? ☐ Yes ☐ No			
Mailing Address (principal place of business):			
Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 7—INSURANCE

7.01 Provide information regarding Business's insurance company(s), including but not limited to its Commercial General Liability carrier. Provide information for each provider.

Name of insurance provider, and type of policy (CLE, auto, etc.):	
Insurance Provider	Type of Policy (Coverage Provided)
Are providers licensed or authorized to issue policies in the Project location?	☐ Yes ☐ No
Does provider have an A.M. Best Rating of A-VII or better?	☐ Yes ☐ No
Mailing Address (principal place of business):	

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Physical Address (principal place of business):			
Phone (main):		Phone (claims):	

ARTICLE 8—CONSTRUCTION EXPERIENCE

8.01 Provide information that will identify the overall size and capacity of the Business.

Average number of current full-time employees:	
Estimate of revenue for the current year:	
Estimate of revenue for the previous year:	

8.02 Provide information regarding the Business's previous contracting experience.

Years of experience with projects like the proposed project:				
As a general contractor:		As a joint venturer:		
Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:				
Been disqualified as a bidder by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No				
Been barred from contracting by any local, state, or federal agency within the last 5 years? ☐ Yes ☐ No				
Been released from a bid in the past 5 years? ☐ Yes ☐ No				
Defaulted on a project or failed to complete any contract awarded to it? ☐ Yes ☐ No				
Refused to construct or refused to provide materials defined in the contract documents or in a change order? ☐ Yes ☐ No				
Been a party to any currently pending litigation or arbitration? ☐ Yes ☐ No				
Provide full details in a separate attachment if the response to any of these questions is Yes.				

8.03 List all projects currently under contract in Schedule A and provide indicated information.

8.04 List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business's experience with projects similar in type and cost of construction.

8.05 List all projects performed for Tribal governments in the past 10 years in Schedule C. If the contractor has never completed work for a Tribal government, a letter by the president/CEO of the company stating this must be provided in lieu of the list.

8.06 In Schedule D, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule D. Key individuals include the

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Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business's key leaders as well.

ARTICLE 9—REQUIRED ATTACHMENTS

9.01 Provide the following information with the Statement of Qualifications:

A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.02.

B. Diverse Business Certifications if required by Paragraph 3.01.

C. Certification of Business's safety performance if required by Paragraph 4.02.

D. Financial statements as required by Paragraph 5.01.

E. Attachments providing additional information as required by Paragraph 8.02.

F. Schedule A (Current Projects) as required by Paragraph 8.03.

G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.

H. Schedule C (Projects for Tribal Governments) as required by Paragraph 8.05.

I. Schedule D (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.06.

J. Additional items as pertinent.

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This Statement of Qualifications is offered by:

Business: _____
(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(date signed)

(If Business is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Address for giving notices:

_____

_____

_____

Designated Representative:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

_____

_____

_____

Phone: _____

Email: _____

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Schedule A—Current Projects (add additional pages as necessary)

Name of Organization					
Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent		Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent		Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner			Project Name		
General Description of Project					
Project Cost			Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent		Safety Manager	Quality Control Manager
Name					
Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

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Schedule B—Previous Experience with Similar Projects (add additional pages as necessary)

Name of Organization				
Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

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Schedule C—Projects for Tribal Governments (add additional pages as necessary)

Name of Organization				
Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

Project Owner		Project Name		
General Description of Project				
Project Cost		Date Project Completed		
Key Project Personnel	Project Manager	Project Superintendent	Safety Manager	Quality Control Manager
Name				

Reference Contact Information (listing names indicates approval to contacting the names individuals as a reference)					
	Name	Title/Position	Organization	Telephone	Email
Owner					
Designer					
Construction Manager					

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Schedule D—Key Individuals

Project Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Project Superintendent			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

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Safety Manager			
Name of individual			
Years of experience as project manager			
Years of experience with this organization			
Number of similar projects as project manager			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	
Quality Control Manager			
Name of individual			
Years of experience as project superintendent			
Years of experience with this organization			
Number of similar projects as project superintendent			
Number of similar projects in other positions			
Current Project Assignments			
Name of assignment		Percent of time used for this project	Estimated project completion date
Reference Contact Information (listing names indicates approval to contact named individuals as a reference)			
Name		Name	
Title/Position		Title/Position	
Organization		Organization	
Telephone		Telephone	
Email		Email	
Project		Project	
Candidate's role on project		Candidate's role on project	

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NOTICE OF AWARD

Date of Issuance:

Owner: **Cocopah Indian Tribe**

Engineer: **Indian Health Service**

Project No.:

Contract Name: **Manhole Rehabilitation; PH20-V64; WA02-25**

Bidder:

Bidder's Address:

You are notified that Owner has accepted your Bid dated **[date]** for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

Manhole rehabilitation activities across the Cocopah Reservation including 12 manholes in North Cocopah and 37 in West Cocopah. Rehabilitation activities include, but are not limited to manhole cleaning and debris removal, installation of coating systems on manhole benches and adjustment rings, PVC sheet liner removal, PVC sheet liner welding, manhole bench rebuilds, and replacement, adjustment or rehabilitation of manhole frames and covers.

The Contract Price of the awarded Contract is $**[Contract Price]**. Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

Two (2) unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☐ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any): **[Describe other conditions that require Successful Bidder's compliance]**

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.
Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: **[Full formal name of Owner]**
By *(signature)*: _____
Name *(printed)*: _____
Title: _____
Copy: Engineer

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AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between **Cocopah Indian Tribe** ("Owner") and **[name of contracting entity]** ("Contractor").

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: **The work includes, but are not limited to manhole cleaning and debris removal, installation of coating systems on manhole benches and adjustment rings, PVC sheet liner removal, PVC sheet liner welding, manhole bench rebuilds, and replacement, adjustment or rehabilitation of manhole frames and covers.**

Article 2—**THE PROJECT**

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Manhole rehabilitation activities across the Cocopah Reservation including 12 manholes in North Cocopah and 37 in West Cocopah. Rehabilitation activities include, but are not limited to manhole cleaning and debris removal, installation of coating systems on manhole benches and adjustment rings, PVC sheet liner removal, PVC sheet liner welding, manhole bench rebuilds, and replacement, adjustment or rehabilitation of manhole frames and covers.**

Article 3—**ENGINEER.**

3.01 *The Owner has signed a Memorandum of Agreement with the Indian Health Service to provide engineering and other technical advisory services. As a sovereign entity, Owner retains decision making authority in the execution of this Contract.*

3.02 The part of the Project that pertains to the Work has been designed by the OWNER's Consultant with consultation from Indian Health Service.

Article 4—**CONTRACT TIMES**

4.01 *Time is of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).
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4.03 *Contract Times: Days*

A. The Work will be substantially complete within **100 *calendar* days** after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 130 *calendar* days after the date when the Contract Times commence to run.

4.05 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration 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):

1. *Substantial Completion:* Contractor shall pay Owner $**500** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.

2. *Completion of Remaining Work:* After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $**250** for each day that expires after such time until the Work is completed and ready for final payment.

3. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.

B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

Article 5—**CONTRACT PRICE**

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:

B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item).

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BID TABLE (REVISED 10/2025)
Cocopah Indian Tribe
Manhole Rehabilitation, Yuma County, Arizona
PH20-V64; WA02-25

Item No.	Description	TP. Ref.	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization / Demobilization	TP-01	LS	1		
2	Manhole Cleaning & Debris Removal	TP-08	EA	49		
3	Frame & Cover Replacement	TP-06, 08	EA	6		
4	Raise Frame and Cover to Grade	TP-08	EA	2		
5	Bolt Replacement on Covers	TP-08	EA	8		
6	PVC Liner Removal on Bench or Adjustment	TP-08	EA	9		
7	Coat Adjustments (up to 13 vertical inches per manhole)	TP-08	EA	30		
8	Coat Bench/Invert	TP-08	EA	45		
9	Rebuild Manhole Bench & Invert	TP-06, 08	EA	5		
10	PVC Welding (Per Manhole)	TP-08	EA	24		
					SUBTOTAL	
					TOTAL BASE BID AMOUNT	
ADDITIVE ALTERNATE BID ITEMS						
1	Coat Adjustments*	TP-08	EA	--		
2	Coat Bench/Invert*	TP-08	EA	--		
3	Frame & Cover Replacement*	TP-08	EA	--		

**Contractor shall provide unit price for each additive alternative. If funding allows, the Owner may determine the additional quantities and award work through the formal change order process at the specified unit price.*

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

C. Total of Unit Price Work (subject to final Unit Price adjustment) $**[number]**.

D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

Article 6—**PAYMENT PROCEDURES**

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on the basis of Contractor's Applications for Payment (**e.g. - EJCDC C620 App for Payment (2018)**) on or about the **5th** day of each month during

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performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

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 Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.

   a. **90** percent of the value of the Work completed (with the balance being retainage).

      1) If 50 percent or more of the Work has been completed, as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

   b. **90** percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to **100** percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less **200** percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 *Consent of Surety*

A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

Article 7—**CONTRACT DOCUMENTS**

7.01 *Contents*

A. The Contract Documents consist of all of the following:

1. This Agreement.

2. Bonds:

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a. Performance bond (together with power of attorney).

b. Payment bond (together with power of attorney).

3. General Conditions.

4. Supplementary Conditions.

5. **Specifications (Technical Provisions)** as listed in the table of contents of the project manual (copy of list attached).

6. **Construction Drawings** as listed in the table of contents of the project manual (copy of list attached).

6. Addenda (numbers **[number]** to **[number]**, inclusive).

7. Exhibits to this Agreement (enumerated as follows):

a. **Inspection Summary – Cocopah North & South Manhole Inspection**

8. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:

a. Notice to Proceed.

b. Work Change Directives.

c. Change Orders.

d. Field Orders.

e. Warranty Bond, if any.

B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 7.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

Article 8—**REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS**

8.01 *Contractor's Representations*

A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:

1. Contractor has examined and carefully studied the Contract Documents, including Addenda.

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2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

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8.02 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 *Standard General Conditions*

A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

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IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on **[indicate date on which Contract becomes effective]** (which is the Effective Date of the Contract).

Owner:	Contractor:
_____	_____
(typed or printed name of organization)	*(typed or printed name of organization)*
By: _____	By: _____
(individual's signature)	*(individual's signature)*
Date: _____	Date: _____
(date signed)	*(date signed)*
Name: _____	Name: _____
(typed or printed)	*(typed or printed)*
Title: _____	Title: _____
(typed or printed)	*(typed or printed)*
	*(If **[Type of Entity]** is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*
Attest: _____	Attest: _____
(individual's signature)	*(individual's signature)*
Title: _____	Title: _____
(typed or printed)	*(typed or printed)*
Address for giving notices:	Address for giving notices:
_____	_____
_____	_____
_____	_____
Designated Representative:	Designated Representative:
Name: _____	Name: _____
(typed or printed)	*(typed or printed)*
Title: _____	Title: _____
(typed or printed)	*(typed or printed)*
Address:	Address:
_____	_____
_____	_____
_____	_____
Phone: _____	Phone: _____
Email: _____	Email: _____
*(If **[Type of Entity]** is a corporation, attach evidence of authority to sign. If **[Type of Entity]** is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)*	License No.: _____
	(where applicable)
	State: _____

EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).
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PERFORMANCE BOND

Contractor Name: Address *(principal place of business)*:	**Surety** Name: Address *(principal place of business)*:
Owner Name: **Cocopah Indian Tribe** Address *(principal place of business)*: **14515 S. Veterans Drive, Somerton, AZ 85350**	**Contract** Description *(name and location)*: **Manhole Rehabilitation** **PH20-V64; WA02-25, North and West Cocopah Indian Reservations, Yuma County, AZ** Contract Price: Effective Date of Contract:

Bond

Bond Amount:

Date of Bond:

(Date of Bond cannot be earlier than Effective Date of Contract)

Modifications to this Bond form:

☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

Contractor as Principal	Surety
_____ *(Full formal name of Contractor)*	_____ *(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature)(Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.

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

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:

    3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;

    3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

    3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. 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:

    5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

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

    5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the

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amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

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

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven 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 5.4, and the Owner refuses the payment, 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.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2. 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 5; and

7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

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

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

11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of 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

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this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.

12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.

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

14. Definitions

    14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for 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 Construction Contract.

    14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

    14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

    14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

    14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

16. Modifications to this Bond are as follows: **None**

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PAYMENT BOND

Contractor Name: Address *(principal place of business)*:	**Surety** Name: Address *(principal place of business)*:
Owner Name: **Cocopah Indian Tribe** Address *(principal place of business)*: **14515 S. Veterans Drive, Somerton, AZ 85350**	**Contract** Description *(name and location)*: **Manhole Rehabilitation** **PH20-V64; WA02-25, North and West Cocopah Indian Reservation, Yuma County, AZ** Contract Price: Effective Date of Contract:

Bond

Bond Amount:

Date of Bond:

(Date of Bond cannot be earlier than Effective Date of Contract)

Modifications to this Bond form:

☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

Contractor as Principal	Surety
(Full formal name of Contractor)	*(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature)(Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.

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1. The Contractor and 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 Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond will arise after the following:

    5.1. Claimants who do not have a direct contract with the Contractor

        5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

        5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).

    5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

    7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

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

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7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction 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 Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

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

12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, 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 will be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.

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

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15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

    16.1. *Claim*—A written statement by the Claimant including at a minimum:

        16.1.1. The name of the Claimant;
        16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
        16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
        16.1.4. A brief description of the labor, materials, or equipment furnished;
        16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
        16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
        16.1.7. The total amount of previous payments received by the Claimant; and
        16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

    16.2. *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 Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction 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.

    16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

    16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

    16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

18. Modifications to this Bond are as follows: **Non**

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CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:		Owner's Project No.:
Engineer:	Indian Health Service	Engineer's Project No.:
Contractor:		Contractor's Project No.:
Project:		
Contract Name:		

This ☐ Preliminary ☐ Final Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

[Describe the portion of the work for which Certificate of Substantial Completion is issued]

Date of Substantial Completion: **[Enter date, as determined by Engineer]**

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities: ☐ None ☐ As follows:

[List amendments to Owner's Responsibilities]

Amendments to Contractor's Responsibilities: ☐ None ☐ As follows:

[List amendments to Contractor's Responsibilities]

The following documents are attached to and made a part of this Certificate:

[List attachments such as punch list; other documents]

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Engineer

By *(signature)*: _____

Name *(printed)*: _____

Title: _____

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NOTICE OF ACCEPTABILITY OF WORK

Owner:		Owner's Project No.:
Engineer:	Indian Health Service	Engineer's Project No.:
Contractor:		Contractor's Project No.:
Project:		
Contract Name:		
Notice Date:		Effective Date of the Construction Contract:

The Engineer hereby gives notice to the Owner and Contractor that Engineer recommends final payment to Contractor, and that the Work furnished and performed by Contractor under the Construction Contract is acceptable, expressly subject to the provisions of the Construction Contract's Contract Documents ("Contract Documents") and of the Agreement between Owner and Engineer for Professional Services dated **[date of professional services agreement]** ("Owner-Engineer Agreement"). This Notice of Acceptability of Work (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

1. This Notice has been prepared with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
2. This Notice reflects and is an expression of the Engineer's professional opinion.
3. This Notice has been prepared to the best of Engineer's knowledge, information, and belief as of the Notice Date.
4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's Work) under the Owner-Engineer Agreement, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Owner-Engineer Agreement.
5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents, or to otherwise comply with the Contract Documents or the terms of any special guarantees specified therein.
6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

Engineer

By *(signature)*: _____

Name *(printed)*: _____

Title: _____

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

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

2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.

3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

5. *Bidder*—An individual or entity that submits a Bid to Owner.

6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.

7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.

8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.

9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

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10. *Claim*

    a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

    b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.

    c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.

    d. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.

13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.

14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.

15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.

16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.

17. *Cost of the Work*—See Paragraph 13.01 for definition.

18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.

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19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.

20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.

21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.

23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.

24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.

    a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.

    b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.

    c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.

25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.

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28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.

29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.

30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.

31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.

32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.

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

35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals.

36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.

39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

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40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers' instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.

44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.

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

46. *Technical Data*

    a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.

    b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any

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geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.

c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.

47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.

48. *Unit Price Work*—Work to be paid for on the basis of unit prices.

49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives*: The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the

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Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.

C. *Day*: The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*: The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

1. does not conform to the Contract Documents;

2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

3. 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 15.03 or Paragraph 15.04).

E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.

4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

F. *Contract Price or Contract Times*: References to a change in "Contract Price or Contract Times" or "Contract Times or Contract Price" or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term "or both" is not expressed.

G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

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Article 2—**PRELIMINARY MATTERS**

2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance

A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).

B. *Evidence of Contractor's Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.

C. *Evidence of Owner's Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 Copies of Documents

A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of re.

B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 Before Starting Construction

A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:

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

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments

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during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 Preconstruction Conference; Designation of Authorized Representatives

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 Acceptance of Schedules

A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 Electronic Transmittals

A. Except as otherwise stated elsewhere in the Contract, the Owner, Owner's Consultant, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.

B. If the Contract does not establish protocols for Electronic Means, then Owner, Owner's Consultant, Engineer, and Contractor shall jointly develop such protocols.

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C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

Article 3—**CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

3.01 Intent

A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.

B. 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.

C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.

D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.

E. Engineer, with assistance of Owner's Consultant, will issue clarifications and interpretations of the Contract Documents as provided herein.

F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

G. Nothing in the Contract Documents creates:

1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or

2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 Reference Standards

A. *Standards Specifications, Codes, Laws and Regulations*

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard

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specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 Reporting and Resolving Discrepancies

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements*: Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents*: If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, with the assistance of Owner's Consultant, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take

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precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:

a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or

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

3.04 Requirements of the Contract Documents

A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

B. Engineer will, with assistance of the Owners Consultant, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.

C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 Reuse of Documents

A. Contractor and its Subcontractors and Suppliers shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or

2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.

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B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

Article 4—**COMMENCEMENT AND PROGRESS OF THE WORK**

4.01 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 Starting the Work

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 Reference Points

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument 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 or property monuments by professionally qualified personnel.

4.04 Progress Schedule

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.

B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

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4.05 Delays in Contractor's Progress

A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.

B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.

C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:

1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. Abnormal weather conditions;

3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and

4. Acts of war or terrorism.

D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:

1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.

2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.

3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.

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E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:

1. The circumstances that form the basis for the requested adjustment;

2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;

3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;

4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and

5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.

Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.

F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.

G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

Article 5—**SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

5.01 Availability of Lands

A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

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5.02 Use of Site and Other Areas

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

B. *Removal of Debris During Performance of the Work*: During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.

C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

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and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading of Structures*: 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 structures or land to stresses or pressures that will endanger them.

5.03 Subsurface and Physical Conditions

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;

2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and

3. Technical Data contained in such reports and drawings.

B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

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

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

3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or

4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

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5.04 Differing Subsurface or Physical Conditions

A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:

1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;

2. is of such a nature as to require a change in the Drawings or Specifications;

3. differs materially from that shown or indicated in the Contract Documents; or

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

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

B. *Engineer's Review*: After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.

C. *Owner's Statement to Contractor Regarding Site Condition*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.

D. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

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E. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;

    b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

    c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:

    a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;

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

    c. Contractor failed to give the written notice required by Paragraph 5.04.A.

3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

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5.05 Underground Facilities

A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:

1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;

2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;

4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and

5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.

B. *Notice by Contractor*: If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.

C. *Engineer's Review*: Engineer will:

1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;

2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;

3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and

4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

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D. *Owner's Statement to Contractor Regarding Underground Facility*: After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.

E. *Early Resumption of Work*: If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.

F. *Possible Price and Times Adjustments*

1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

    a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;

    b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and

    c. Contractor gave the notice required in Paragraph 5.05.B.

2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.

3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

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5.06 Hazardous Environmental Conditions at Site

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;

2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and

3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

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

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

3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.

D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.

E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3)

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notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer and Owner's Consultant, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.

G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.

H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

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J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

Article 6—**BONDS AND INSURANCE**

6.01 Performance, Payment, and Other Bonds

A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.

B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.

C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or Regulations, and must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.

E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify

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Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.

F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.

G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.

H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 Insurance—General Provisions

A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.

B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.

C. Alternative forms of insurance coverage, including but not limited to self-insurance and "Occupational Accident and Excess Employer's Indemnity Policies," are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.

D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence

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of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.

F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

H. Contractor shall require:

1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and

2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.

I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.

J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.

K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its

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interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.

M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.

N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 Contractor's Insurance

A. *Required Insurance*: Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.

B. *General Provisions*: The policies of insurance required by this Paragraph 6.03 as supplemented must:

1. include at least the specific coverages required;

2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;

3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;

4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and

5. include all necessary endorsements to support the stated requirements.

C. *Additional Insureds*: The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:

1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;

2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;

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3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and

5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 Builder's Risk and Other Property Insurance

A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.

B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.

C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.

D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.

E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or

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property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 Property Losses; Subrogation

A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.

2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.

B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.

1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.

C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to

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Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.

D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 Receipt and Application of Property Insurance Proceeds

A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.

C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

Article 7—**CONTRACTOR'S RESPONSIBILITIES**

7.01 Contractor's Means and Methods of Construction

A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing

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of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 Supervision and Superintendence

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 Labor; Working Hours

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.

C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 Services, Materials, and Equipment

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, 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 performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.

B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

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7.05 "Or Equals"

A. *Contractor's Request; Governing Criteria*: Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.

1. If Engineer, with the assistance of the Owner's Consultant, in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:

    a. in the exercise of reasonable judgment Engineer determines that the proposed item:

        1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

        2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;

        3) has a proven record of performance and availability of responsive service; and

        4) is not objectionable to Owner.

    b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:

        1) there will be no increase in cost to the Owner or increase in Contract Times; and

        2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.

B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.

C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be

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evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.

E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.

1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:

a. will certify that the proposed substitute item will:

1) perform adequately the functions and achieve the results called for by the general design;

2) be similar in substance to the item specified; and

3) be suited to the same use as the item specified.

b. will state:

1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;

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2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.

c. will identify:

1) all variations of the proposed substitute item from the item specified; and

2) available engineering, sales, maintenance, repair, and replacement services.

d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.

B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.

C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.

F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of

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reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 Concerning Subcontractors and Suppliers

A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.

B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.

C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.

D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.

E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.

F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.

G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

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I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.

J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.

K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.

L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.

M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 Patent Fees and Royalties

A. 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 an 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 will be disclosed in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to 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 specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the

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Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 Permits

A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. 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 the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 Taxes

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

7.11 Laws and Regulations

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.

C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

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7.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.

B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.

C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

1. all persons on the Site or who may be affected by the Work;

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

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

D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.

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F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.

G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.

H. Contractor shall inform Owner, Owner's Consultant and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).

J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 Hazard Communication Programs

A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent 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 by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

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7.16 Submittals

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:

a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determine and verify:

1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;

2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;

c. confirm that the Submittal is complete with respect to all related data included in the Submittal.

2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

B. *Submittal Procedures for Shop Drawings and Samples*: Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

a. Contractor shall submit the number of copies required in the Specifications.

b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

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2. *Samples*

    a. Contractor shall submit the number of Samples required in the Specifications.

    b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.

3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.

6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.

7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.

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8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. *Resubmittal Procedures for Shop Drawings and Samples*

1. 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.

2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.

3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. *Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:

a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.

b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.

c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03. 2.04, and 2.05.

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F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.

B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:

1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and

2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.

C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:

1. Observations by Engineer;

2. Recommendation by Engineer or payment by Owner of any progress or final payment;

3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. Use or occupancy of the Work or any part thereof by Owner;

5. Any review and approval of a Shop Drawing or Sample submittal;

6. The issuance of a notice of acceptability by Engineer;

7. The end of the correction period established in Paragraph 15.08;

8. Any inspection, test, or approval by others; or

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9. Any correction of defective Work by Owner.

E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

[Deleted]

Article 8—**OTHER WORK AT THE SITE**

8.01 Other Work

A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

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B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.

C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.

D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 Coordination

A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:

1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;

2. An itemization of the specific matters to be covered by such authority and responsibility; and

3. The extent of such authority and responsibilities.

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B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.

1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.

2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.

C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all

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parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

Article 9—**OWNER'S RESPONSIBILITIES**

9.01 Communications to Contractor

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 Replacement of Engineer

A. In the event a new engineer is appointed to replace Engineer, the replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 Furnish Data

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 Pay When Due

A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 Lands and Easements; Reports, Tests, and Drawings

A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.

B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.

C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 Insurance

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 Change Orders

A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

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9.08 Inspections, Tests, and Approvals

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 Limitations on Owner's Responsibilities

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

9.10 Undisclosed Hazardous Environmental Condition

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 Evidence of Financial Arrangements

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 Safety Programs

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.

B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

Article 10—**ENGINEER'S STATUS DURING CONSTRUCTION**

10.01 Owner's Representative

A. Engineer and Owner's Consultant will be Owner's representatives during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 Visits to Site

A. Engineer and Owner's Consultant will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer and Owner's Consultant, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed

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toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Resident Project Representative

A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.

B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 Engineer's Authority

A. Engineer has the authority to reject Work in accordance with Article 14.

B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.

C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.

D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 Determinations for Unit Price Work

A. Engineer, with assistance from Owner's Consultant, will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 Decisions on Requirements of Contract Documents and Acceptability of Work

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such

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decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 Limitations on Engineer's Authority and Responsibilities

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

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

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 Compliance with Safety Program

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

Article 11—**CHANGES TO THE CONTRACT**

11.01 Amending and Supplementing the Contract

A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.

B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.

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C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 Change Orders

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

1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;

2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;

3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and

4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.

B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 Work Change Directives

A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

B. If Owner has issued a Work Change Directive and:

1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.

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2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 Field Orders

A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.

B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 Owner-Authorized Changes in the Work

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.

B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.

C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 Unauthorized Changes in the Work

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 Change of Contract Price

A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.

B. An adjustment in the Contract Price will be determined as follows:

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1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);

2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or

3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:

1. A mutually acceptable fixed fee; or

2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;

b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;

c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;

d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;

e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and

f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the

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sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 Change of Contract Times

A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.

B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 Change Proposals

A. *Purpose and Content*: Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. *Change Proposal Procedures*

1. *Submittal*: Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.

2. *Supporting Data*: The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.

    a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.

    b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

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3. *Engineer's Initial Review*: Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.

4. *Engineer's Full Review and Action on the Change Proposal*: Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.

C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 Notification to Surety

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

Article 12—**CLAIMS**

12.01 Claims

A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:

1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;

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2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;

3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and

4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.

B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.

2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does

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not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

Article 13—**COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

13.01 Cost of the Work

A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:

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

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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 accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.

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

5. Other costs consisting of the following:

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

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, 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.

        1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

    c. *Construction Equipment Rental*

        1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment,

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machinery, or parts must cease when the use thereof is no longer necessary for the Work.

2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.

3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

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

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded*: The term Cost of the Work does not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other

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personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.

2. The cost of purchasing, renting, or furnishing small tools and hand tools.

3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

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

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.

6. Expenses incurred in preparing and advancing Claims.

7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:

a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.

b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:

1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.

2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.

2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will

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establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

A. 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 performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*: Contractor agrees that:

1. the cash 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

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

C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.

C. 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.

D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by

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recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:

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

b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.

2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.

3. Adjusted unit prices will apply to all units of that item.

Article 14—**TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK**

14.01 Access to Work

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 Tests, Inspections, and Approvals

A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.

B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.

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C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:

1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;

2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;

3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and

5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.

F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

A. *Contractor's Obligation*: It is Contractor's obligation to assure that the Work is not defective.

B. *Engineer's Authority*: Engineer has the authority to determine whether Work is defective, and to reject defective Work.

C. *Notice of Defects*: Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.

D. *Correction, or Removal and Replacement*: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated,

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installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.

E. *Preservation of Warranties*: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

F. *Costs and Damages*: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 Uncovering Work

A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.

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1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.

2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 Owner May Stop the Work

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then 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 will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or 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, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

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D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

Article 15—**PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

15.01 Progress Payments

A. *Basis for Progress Payments*: The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

2. 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 must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing

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Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

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

    a. the Work has progressed to the point indicated;

    b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

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

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

    a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or

    b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

    a. to supervise, direct, or control the Work;

    b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;

    c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;

    d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or

    e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

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5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.

6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:

    a. the Work is defective, requiring correction or replacement;

    b. the Contract Price has been reduced by Change Orders;

    c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

    d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

    e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:

    a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

    b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;

    c. Contractor has failed to provide and maintain required bonds or insurance;

    d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;

    e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;

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f. The Work is defective, requiring correction or replacement;

g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;

h. The Contract Price has been reduced by Change Orders;

i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;

j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;

k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or

l. Other items entitle Owner to a set-off against the amount recommended.

2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider

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the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose

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without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.

2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 Final Inspection

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly 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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 Final Payment

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.

2. The final Application for Payment must be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents;

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b. consent of the surety, if any, to final payment;

c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

d. a list of all duly pending Change Proposals and Claims; and

e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Final Application and Recommendation of Payment*: If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Notice of Acceptability*: In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.

D. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.

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E. *Final Payment Becomes Due*: Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 Waiver of Claims

A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 Correction Period

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such adjacent areas;

2. correct such defective Work;

3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.

B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.

C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and

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charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.

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

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

F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

Article 16—**SUSPENSION OF WORK AND TERMINATION**

16.01 Owner May Suspend Work

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:

1. Contractor's persistent failure 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);

2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;

3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or

4. Contractor's repeated disregard of the authority of Owner or Engineer.

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B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:

1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.

C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, 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 complete the Work as Owner may deem expedient.

D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.

E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

F. 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, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.

G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

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16.03 Owner May Terminate for Convenience

A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

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

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

3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.

B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 Contractor May Stop Work or Terminate

A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

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Article 17—**FINAL RESOLUTION OF DISPUTES**

17.01 Methods and Procedures

A. *Disputes Subject to Final Resolution*: The following disputed matters are subject to final resolution under the provisions of this article:

1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and

2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.

B. *Final Resolution of Disputes*: For any dispute subject to resolution under this article, Owner or Contractor may:

1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;

2. agree with the other party to submit the dispute to another dispute resolution process; or

3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

Article 18—**MISCELLANEOUS**

18.01 Giving Notice

A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:

1. in person, by a commercial courier service or otherwise, to the recipient's place of business;

2. by registered or certified mail, postage prepaid, to the recipient's place of business; or

3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 Computation of Times

A. When any period of time is referred to in the Contract 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.

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18.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. 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.

18.04 Limitation of Damages

A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 No Waiver

A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 Survival of Obligations

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

18.07 Controlling Law

A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 Assignment of Contract

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is 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.

18.09 Successors and Assigns

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

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18.10 Headings

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

SC-1.01.A.3 Application for Payment

Amend the definition as follows:

Application for Payment—The form acceptable to Owner, which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

SC-1.01.A.31 Progress Schedule

Amend the definition as follows:

Progress Schedule—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the time authorized under the Agreement.

SC – 1.01.A.51. Add the following new paragraph after Article 1.01.A.50:

Agency – This project is financed in whole or in part by the Indian Health Service Sanitation Facilities construction Program (IHS) pursuant to, 42 U.S.C. 2004a, Public Law 86-121, Indian Sanitation Facilities Act. The Agency for these documents is the Indian Health Service (IHS).

Article 2—**PRELIMINARY MATTERS**

No suggested Supplementary Conditions in this Article.

Article 3—**CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE**

No suggested Supplementary Conditions in this Article.

Article 4—**COMMENCEMENT AND PROGRESS OF THE WORK**

SC – 4.01 Delete Paragraph 4.01.A in its entirety and insert the following:

A. The Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than December 18, 2025.

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Article 5—**SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS**

SC-5.06 Hazardous Environmental Conditions at Site

Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

A. No reports or drawings of Hazardous Environmental Conditions at or contiguous to the Site are known to the Owner or Engineer.

B. Not used.

Article 6—**BONDS AND INSURANCE**

SC-6.03 Contractor's Insurance

Add the following new paragraph immediately after Article 6.03.C:

D. The limits of liability for insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverage under Paragraphs 6.03.A of the General Conditions:

a. State: Statutory
b. Applicable Federal
c. Employer's Liability
Bodily Injury, each Accident {$ 500,000}
Bodily Injury By Disease, each Employee {$ 100,000}
Bodily Injury/Disease Aggregate {$100,000}

2. Contractor's General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions which shall include completed operations and product liability coverage's and eliminate the exclusion with respect to property under the care, custody, and control of the Contractor:

a. General Liability {$ 250,000}
b. Each Occurrence
(Bodily Injury and
Property Damage) {$ 500,000}
c. Property Damage liability
Insurance will provide
Explosion, Collapse, and
Underground coverage's where applicable.

3. Automobile Liability under Paragraph 6.03.D of the General Conditions:

a. Bodily Injury:

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Each Person {$ 200,000}
Each Accident {$ 500,000}

b. Property Damage:
Each Accident {$ 20,000}

c. Combined Single Limit of {$ 500,000}

Article 7—**CONTRACTOR'S RESPONSIBILITIES**

7.01 *Contractor's Means and Methods of Construction*

SC-7.01 Add the following new paragraph immediately after Paragraph 7.01.B:

A. It shall be the Contractor's responsibility to notify all utility companies involved whenever a utility line is to be cut, tapped, moved, or in any way disturbed from its original placement. Sufficient notice shall be given to the utility company so that its users can be informed of any disruption of service.

7.05 *Or Equals*

SC – 7.05.A. Amend the third sentence of Paragraph 7.05.A by striking out the following words:

Unless the specification or description contains or is followed by words reading that no like, equivalent, or 'or-equal' item is permitted.

7.07 *Concerning Subcontractors and Suppliers*

SC – 7.07.B. Delete Paragraph 7.07.B in its entirety and insert the following its place:

[Deleted]

SC – 7.07.E. Amend the second sentence of Paragraph 7.07.E by striking out the following words:

Owner also may require Contractor to retain specific replacements; provided, however, that

SC – 7.07.N. Add the following new Paragraph immediately after Paragraph 7.07.M:

Contractor is required to perform at least 33 1/3% of the Work, measured as a percentage of the Contract Price, using their employees and equipment. Copies of Subcontract agreements may be required by the Engineer to verify the amount of work performed.

SC-7.13 *Safety and Protection*

Add new paragraphs immediately after Paragraph 7.13.J:

K. The Contractor shall ensure safe working conditions for employees during excavations. The Contractor shall comply with the Occupational Safety and Health Standards – Construction Standards for Excavations (29 CFR Part 1926, Subpart P) with additions or modifications thereto issued by the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) as well as applicable state and local regulations. Excavations and adjacent areas must be inspected by a competent person at the start of each work day and as needed throughout the day for evidence of hazardous conditions or developing

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hazardous conditions. Prior to the start of construction, the Contractor shall provide the Owner a list of inspections when required. A record of these daily inspections shall be kept by the Contractor and be made available to the Owner or the Owner's representative upon request. It is the Contractor's responsibility to become knowledgeable of the regulations and comply with all requirements contained therein.

L. Employees in excavations must be protected from cave-ins by sloping and benching systems, support systems, shield systems, or other protective systems as described in the OSHA regulations. Only excavations which are entirely within stable rock, or excavations which are less than 5 feet in depth and, upon examination by a competent person, show no indication of potential cave-in are exempted from the requirement for cave-in protection. No material shall be placed within 2 feet of the edge of the excavation. Where employees are required to be in excavations more than 4 feet deep, a ladder, stairway, or ramp shall be provided and located so as to require no more than 25 feet of lateral travel. The total length of open trench shall not exceed 500 feet without the Owner's approval. All trenches shall be completely backfilled at the end of each working day, unless otherwise approved by the Owner or the Owner's representative.

M. All work within the right-of-way of a street, road, highway, sidewalk, trail, or other public thoroughfare, or work which requires encroachment into the right-of-way of a public thoroughfare, shall incorporate adequate signs, barricades, warning lights, and flagmen to ensure the protection of the work, protection of the employees, and the safety of the public. All open construction, obstructions, or other hazards left in place at the end of a work session shall be barricaded and marked by yellow warning lights, which shall be kept burning from sunset to sunrise. All signs, barricades, warning lights, and other traffic control devices, and all traffic control activities shall be in accordance with the most recent edition of the Federal Highway Administration "Manual On Uniform Traffic Control Devices" (ANSI D6.1), OSHA regulations, and the requirements of the transportation department which owns or maintains the thoroughfare.

SC-7.15.B *Emergencies*

Add a new paragraph immediately after Article 7.15.A:

A. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the Engineer and Owner. In addition, the Contractor must promptly report in writing to appropriate authorities and the Owner's representative all accidents whatsoever arising out of, or in connection with, the performance of the Work whether on, or adjacent to, the site, giving full details and statements of witnesses. If a claim is made by anyone against the Contractor or any Sub Contractor on account of any accident, the Contractor shall promptly report the facts in writing to the Owner giving full details of the claim.

Article 8—**OTHER WORK AT THE SITE**

No suggested Supplementary Conditions in this Article.

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Article 9—**OWNER'S RESPONSIBILITIES**

SC – 9.01.A. Communications to Contractor

Amend the Paragraph 9.01.A to read as follows:

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor.

SC – 9.12.B. Safety Program

Add the following new Article immediately after Paragraph 9.12.B:

9.13 Meetings

A. To enable orderly review of progress during construction and to provide for systematic discussion of problems, the Owner may conduct project meetings throughout the construction period. In general project meetings may be held monthly in accordance with a mutually acceptable schedule. The purposes of the meetings are to analyze problems that might arise between the community, the Tribe, and the Contractor, relative to execution of the work. Persons designated by the Contractor to attend and participate in project meetings shall have all required authority to commit the Contractor to solutions as agreed upon in the project meetings. The agenda shall be made available to all parties at least 24 hours in advance of the meeting. To the maximum extent practicable, project meetings shall be held at the job site.

9.14 Owner's Site Representative

A. Owner will furnish an "Owner's Site Representative" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is the **Project Engineer**.

9.15 Owner's Authority

B. Owner has the authority to reject Work if Contractor fails to perform Work in accordance with the Contract Documents.

C. Owner will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work.

D. Owner will seek technical advice of Engineer prior to making any decisions regarding the design, technical matters, or the Contract Documents."

Article 10—**ENGINEER'S STATUS DURING CONSTRUCTION**

SC – 10.01. Owner's Representative

Delete article 10.01.A in its entirety and insert in its place the following:

The Engineer, with assistance from Owner's Consultant, shall act as owner's technical advisor during the construction period of this Contract. If directed by the Owner, Contractor may submit copies (originals sent to the Owner) of information such as submittals, progress payments, change order requests, etc., to the appropriate IHS office

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when technical assistance is required and requested by the Owner. The Engineer will submit any and all recommendations to the Owner for its decision. All direction to the Contractor shall come from the Owner with the technical advice of IHS.

SC – 10.01. Owner's Representative

Add the following new paragraph immediately after Paragraph 10.01.A:

B. At the request of the Owner, IHS will provide oversight and technical assistance on Contractor submittals, progress payments, change order requests, and other project related information submitted by the Contractor and make recommendations to the Owner.

SC – 10.02. Visit to Site

Add the following new paragraphs immediately after Paragraph 10.06.A:

C. All discussions about the Contract with the Owner's Contractor that includes IHS employees and Owner's Consultant shall be conducted by and with direct participation of Owner's employees. The IHS may not make commitments or give direction to the Owner's Contractor. IHS employees cannot represent the Owner and Owner's employees cannot represent the IHS.

D. The IHS and Owner, with assistance from Owner's Consultants, shall inspect all sanitation facilities constructed through Tribal procurement to ensure construction meets contract specifications. The procurement documents shall also note that the IHS inspector does not have authority to modify the Contract or issue direction to the Contractor. Following construction inspection, the IHS will advise the Owner on whether the construction meets the IHS interpretation of the Contract requirements."

SC – 10.03. Resident Project Representative

Add the following language immediately after Paragraph 10.03.B:

C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Owner. RPR's dealings with Contractor will only be through or in presence of and with the full knowledge and approval of Owner. RPR's dealings with Subcontractors will only be through or in presence of and with the full knowledge and approval of Owner and Contractor. The RPR will:

1. Conferences and Meetings: Attend meetings with Owner and Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

2. Safety Compliance: Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.

3. Liaison

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a. Serve as Engineer's liaison with Owner and Contractor. Working principally through Owner's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.

b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.

c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.

4. Review of Work; Defective Work

a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.10.03

5. *Inspections and Tests*

a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.

b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.

6. *Payment Requests:* Review Applications for Payment with Contractor.

7. *Completion*

a. Participate in Engineer's visits regarding Substantial Completion.

b. Assist in the preparation of a punch list of items to be completed or corrected.

c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.

d. Observe whether items on the final punch list have been completed or corrected.

D. The RPR will not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.

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4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.

5 Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.

7. Authorize Owner to occupy the Project in whole or in part.

8. Represent the Owner.

E. Contractor should be advised of the fact that his Contract is with the Owner, with Federal oversight to ensure the Work complies with all applicable Federal requirements. IHS inspection will only confirm quality assurance for the Federal government and the Owner but their presence will not be inferred as quality control for the Contractor nor is implying any contractual relationship. IHS inspection of facilities constructed through Tribal procurement is only part of the Federal oversight responsibility."

SC – 10.04. Engineer's Authority

Delete Paragraph 10.04.A in its entirety and insert in its place the following:

[Deleted]

SC – 10.06. Decisions on Requirements of Contract Documents and Acceptability of Work

Amend Paragraph 10.06.A to read as follows:

Engineer will provide recommendations to Owner regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In making such recommendations, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith."

Article 11—**CHANGES TO THE CONTRACT**

No suggested Supplementary Conditions in this Article.

Article 12—**CLAIMS**

No suggested Supplementary Conditions in this Article.

Article 13—**COST OF WORK; ALLOWANCES, UNIT PRICE WORK**

No suggested Supplementary Conditions in this Article.

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Article 14—**TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCCEPTANCE OF DEFECTIVE WORK**

SC – 14.02 Tests, Inspections, and Approvals

Add new paragraph immediately after Paragraph 14.02.F:

G. Testing requirements include and are not limited to:

1. Compaction Requirements Methods and Testing per TP-01.12.

SC – 14.03. Defective Work

Amend Paragraph 14.03.B to read as follows:

Owner's Authority: Owner has the authority to determine whether Work is defective, and to reject defective Work, with technical advice of Engineer with assistance from Owner's Consultant.

Article 15—**PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD**

SC-15.02.A *Contractor's Warranty of Title*

Amend paragraph by striking out the following text: "7 days after".

Article 16—**SUSPENSION OF WORK AND TERMINATION**

No suggested Supplementary Conditions in this Article.

Article 17—**FINAL RESOLUTIONS OF DISPUTES**

SC – 17.02 *Arbitration*

Add the following new paragraph immediately after Paragraph 17.01.

17.02 *Arbitration*

A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of $100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.

B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.

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C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.

D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.

E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.

F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.

G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer’s consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:

1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;

2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;

3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and

4. the consolidation or joinder is in compliance with the arbitration administrator’s procedural rules.

H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.

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I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

17.02 *Attorneys' Fees*

SC-17.02 Add the following new Paragraph immediately after Paragraph 17.01:

17.02 *Attorneys' Fees*

A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

Article 18—**MISCELLANEOUS**

SC-18.07 *Controlling Law*

Amend Paragraph 18.07.A to read as follows:

A. This Contract is to be governed by the law of the state or jurisdiction in which the Project is located.

SC-18.11 *Tribal Sovereignty*

Add the following new paragraph after Article 18.10:

18.11 *Tribal Sovereignty*

A. No provision of this Agreement will be construed by any of the signatories as abridging or any sovereign powers of the Tribe; affecting the trust-beneficiary relationship between the Secretary of the Interior, Tribe, and Indian Land Owner(s); or interfering with the government-to-government relationship between the United States and the Tribe.

SC-18.12 *Indian Preference*

Add new paragraph immediately after Paragraph 18.11:

18.12 *Indian Preference*

A. The Contractor agrees to give preference in employment opportunities under this contract to the greatest extent feasible to Indians who can perform the required work, regardless of age (subject to existing laws and regulations), sex, religion, or Tribal affiliation. To the maximum extent feasible and consistent with the efficient performance of this contract, the

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Contractor further agrees to give preference to the greatest extent feasible in employment and training opportunities under this contract to Indians who are not fully qualified to perform regardless of age (subject to existing laws and regulations), sex, religion, or tribal affiliation. See Advertisement for Quotes for instructions on Indian Preference in these Contract Documents and refer to Paragraph SC-19.05 TERO for the Owner's Indian Preference policies established in the UTERO Ordinance.

B. The Contractor also agrees to give preference to tribal organizations and Indian-owned economic enterprises in the awarding of any subcontracts to the greatest extent feasible and consistent with the efficient performance of this contract. The Contractor shall maintain statistical records as are necessary to indicate compliance with this paragraph.

C. In connection with the Indian employment preference requirements of this clause, the Contractor shall provide opportunities for training incident to such employment. Such training shall include on-the-job, classroom, or apprenticeship training which is designed to increase the vocational effectiveness of an Indian employee.

D. If the Contractor is unable to fill its employment and training opportunities after giving full consideration to Indians as required by this clause, those needs may be satisfied by selection of persons other than Indians in accordance with applicable fair employment practices.

E. If no tribal organizations or Indian-owned economic enterprises are available under reasonable terms and conditions, including price, for awarding of subcontracts in connection with the work performed under this contract, the Contractor agrees to comply with the provisions of this contract by applying fair, competitive contracting practices.

F. As used in this clause:

1. "Indian" means a person who is a member of an Indian Tribe. If the Contractor has reason to doubt that a person seeking employment preference is an Indian, the Contractor shall grant the preference but shall require the individual to provide evidence within thirty (30) days from the Tribe concerned that the person is a member of that Tribe.

2. "Indian Tribe" means an Indian Tribe, Pueblo, Band, Nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688; 43 U.S.C. l60l) which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

3. "Tribal Organization" shall be as defined in Section 4(c) of the Indian Self-Determination and Education Assistance Act (P.L. 93-638); that is: "the recognized governing body of any Indian Tribe; any legally established organization of Indians which is controlled, sanctioned or chartered by such governing body or which is democratically elected by the adult members of the Indian community to be served by such organization and which includes the maximum participation of Indians in all phases of its activities."

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4. "Indian-owned Economic Enterprise" means any Indian-owned commercial, industrial, or business activity established or organized for the purpose of profit, provided that such Indian ownership shall constitute not less than 5l percent of the enterprise, and that ownership shall encompass active operation and control of the enterprise.

G. The Contractor agrees to include the provisions of this clause, including this paragraph in each subcontract awarded at any tier under this contract.

H. In the event of noncompliance with this clause the Owner may terminate the contract in whole, or in part, or may impose any other sanctions authorized by law or by other provisions of the contract.

Article 19—**FEDERAL REQUIREMENTS**

SC-19 Add the following language immediately after Article 18:

Article 19 - FEDERAL REQUIREMENTS

SC – 19.01 *IHS Not a Party.*

A. This Contract is expected to be funded in part with funds provided by the IHS. Neither the IHS, nor any of its departments, entities, or employees is a party to this contract.

B. IHS employees cannot represent the Owner and Owner's employees cannot represent the IHS.

SC-19.02 *Contract Approval.*

A. Approval by the IHS of the proposed Contract documents and costs is required before this contract is effective.

B. Approval by the IHS of proposed contract changes is required before they are effective.

SC-19.03 *Conflict of Interest.*

A. Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest or other interest in or a tangible personal benefit from the Contractor. Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or subcontractors.

SC-19.04 *Gratuities*

A. If Owner finds after a notice and hearing that Contractor, or any of Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations

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related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

B. In the event this Contract is terminated as provided in paragraph 19.04.A, Owner may pursue the same remedies against Contractor as it could pursue in the event of a breach of this Contract by Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, Owner may pursue exemplary damages in an amount (as determined by Owner) which shall not be less than three nor more than ten times the costs Contractor incurs in providing any such gratuities to any such officer or employee.

SC-19.04 *Small, Minority, and Women's Businesses*

A. Contracting with small and minority businesses, women's business enterprises, and labor surplus area firms. If Contractor intends to let any subcontracts for a portion of the work, Contractor must take all necessary affirmative steps to assure that minority businesses, women's business enterprises, and labor surplus area firms are used when possible. Affirmative steps must include:

1. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

2. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;

4. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and

5. Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

SC-19.05 *Anti-Kickback*

A. Contractor shall comply with the Copeland Anti-Kickback Act (40 U.S.C 3145) as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Buildings or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that Contractor or subcontractor must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. Owner shall report all suspected or reported violations to IHS.

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SC-19.06 *Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended*

A. Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

SC-19.07 *Equal Employment Opportunity*

A. The Contract is considered a federally assisted construction contract. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

SC-19.08 *Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)*

A. Contractors that apply or bid for an award exceeding $100,000 must file the required certification. The Contractor certifies to the Owner and every subcontractor certifies to the Contractor that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining the Contract if it is covered by 31 U.S.C. 1352. The Contractor and every subcontractor must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the Owner.

SC-19.09 *Environmental Requirements. When constructing a Project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental conditions:*

A. When constructing a Project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental conditions:

1. Waters of the U.S. –When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert wetlands or other Waters of the U.S.

2. Floodplains – When disposing of excess, spoil, or other Construction Materials on public or private property, Contractor shall not fill in or otherwise convert 100-year floodplain areas (Standard Flood Hazard Area) delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, e.g., alluvial soils on NRCS Soil Survey Maps.

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3. Any excavation by Contractor that uncovers an historical or archaeological artifact or human remains shall be immediately reported to Owner and a representative of IHS.

4. Historic Preservation –

    a. IHS has, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800.4, undertaken investigations to identify historic properties with the project's area of potential effect. However, should evidence of subsurface archeological or historic properties be discovered during the course of construction, the Contractor shall halt construction, take all necessary steps to protect the property, and immediately notify the Owner or the Owner's representative. The Owner shall have the authority to take all necessary steps to determine the property's significance and make a determination of eligibility in accordance with 36 CFR 800.11. In addition, should human skeletal remains and/or associated funerary objects be discovered during construction, the Contractor shall suspend earthmoving operations, take all necessary steps to protect the remains, and immediately notify the Owner or the Owner's representative. Construction work in the vicinity of the remains shall be suspended until the Tribe decides as to disposition of the skeletal remains and objects in accordance with Section 3(d) of the Native American Graves Protection and Repatriation Act.

    b. The duration of such investigations will vary according to the type and volume of materials discovered, their significance, and the amount of effort required to retrieve the data if so required following consultation with the State Historic Preservation Officer, the Tribal Historic Preservation Officer, and the Advisory Council on Historic Preservation. If possible, the Owner or the Owner's representative shall direct the Contractor to work outside the area of investigations. As it is not possible to determine in advance whether such discovery situations will occur, payment for any downtime or movement to another portion of the project shall be negotiated at the time of occurrence for a modification to the contract. It shall be the responsibility of the Contractor to keep careful written records of any and all personnel and equipment costs involved commencing when any remains are encountered and concluding when work has restarted.

5. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of IHS. Construction shall be temporarily halted pending the notification process and further directions issued by IHS after consultation with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service.

SC-19.10 *Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708)*

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A. Where applicable, for contracts awarded by the Owner in excess of $100,000 that involve the employment of mechanics or laborers, the Contractor must comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, the Contractor must compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

SC-19.11 *Debarment and Suspension (Executive Orders 12549 and 12689)*

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

SC-19.12 *Davis – Bacon Act, as amended (40 U.S.C. 3141-3148)*

A. If this contract is in excess of $2,000, the Contractor must comply with the requirements of the Davis – Bacon Act (40 U.S.C. 3141-3144 and 3146-3148) as supplemented by Department of Labor regulations (29 CFR part 5). In accordance with the statute, the Contractor must pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, the Contractor must be required to pay wages not less than once a week. The Owner must place a copy of the current prevailing wage determination issued by the Department of Labor in the solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination.

B. Contractor is responsible for verifying the Davis-Bacon rates are current. The link is as follows: https://sam.gov/content/wage-determinations

SC-19.15 *Procurement of Recovered Materials*

A. The Contractor must comply with 45 CFR 75.331, "Procurement of Recovered Materials".

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WORK CHANGE DIRECTIVE NO.: [Number of Work Change Directive]

Owner:	Cocopah Indian Tribe	
Engineer:	Indian Health Service	
Contractor:		
Project No:	PH20-V64; WA02-25	
Contract Name:	Manhole Rehabilitation	
Date Issued:		Effective Date of Work Change Directive:

Contractor is directed to proceed promptly with the following change(s):

Description:

[Description of the change to the Work]

Attachments:

[List documents related to the change to the Work]

Purpose for the Work Change Directive:

[Describe the purpose for the change to the Work]

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Notes to User—Check one or both of the following

☐ Non-agreement on pricing of proposed change. ☐ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price:	$ _____	**[increase] [decrease] [not yet estimated]**.
Contract Time:	_____ days	**[increase] [decrease] [not yet estimated]**.

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

	Recommended by Engineer	Authorized by Owner
By:	_____	_____
Title:	_____	_____
Date:	_____	_____

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CHANGE ORDER NO.: [Number of Change Order]

Owner: Cocopah Indian Tribe
Engineer: Indian Health Service
Contractor:
Project No: PH20-V64; WA02-25
Contract Name: Manhole Rehabilitation
Date Issued: Effective Date of Change Order:

The Contract is modified as follows upon execution of this Change Order:

Description:

[Description of the change]

Attachments:

[List documents related to the change]

Change in Contract Price	**Change in Contract Times [State Contract Times as either a specific date or a number of days]**
Original Contract Price: $	Original Contract Times: Substantial Completion: Ready for final payment:
[Increase] [Decrease] from previously approved Change Orders No. 1 to No. **[Number of previous Change Order]**: $	**[Increase] [Decrease]** from previously approved Change Orders No.1 to No. **[Number of previous Change Order]**: Substantial Completion: Ready for final payment:
Contract Price prior to this Change Order: $	Contract Times prior to this Change Order: Substantial Completion: Ready for final payment:
[Increase] [Decrease] this Change Order: $	**[Increase] [Decrease]** this Change Order: Substantial Completion: Ready for final payment:
Contract Price incorporating this Change Order: $	Contract Times with all approved Change Orders: Substantial Completion: Ready for final payment:

Recommended by Engineer (if required)	Authorized by Owner
By:	
Title:	
Date:	
Authorized by Contractor	Approved by Funding Agency (if applicable)
By:	
Title:	
Date:	

TECHNICAL PROVISIONS

Article 1—**SECTION 00: MODIFIED TECHNICAL PROVISIONS**

Article 2—**SECTION 01: TRENCH EXCAVATION AND BACKFILL**

Article 3—**SECTION 02: CONCRETE**

Article 4—**SECTION 03: REINFORCING STEEL**

Article 5—**SECTION 06: SANTIARY SEWERS**

Article 6—**SECTION 08: MANHOLE REHABILITATION**

TECHNICAL PROVISIONS
SECTION 00 – MODIFIED TECHNICAL PROVISIONS

General

This section is provided to change the Phoenix Area Office Indian Health Service (IHS) Sanitation Facilities Construction (SFC) on a project by project basis. As such, refer to the referenced Technical Provisions (TPs) and follow the changes set forth herein. Further, these changes take precedent over the TPs that follow.

SECTION 01 – TRENCH EXCAVATION AND BACKFILL FOR PIPELINES AND APPURTENANT STRUCTURES

A. Technical Provision Section 1 (TP-01.03, 09, 20)

General:

Tracer Wire, Markers and Bollard are not required for this contract.

Dewatering is not required for this contract.

A Storm Water Pollution Prevention Plan (SWPP) is not required for this contract.

Seeding will not be required for this contract.

B. Technical Provision Section 1 (TP-01.23)

Add:

J. Traffic Control Plan and Right of Way Permit: A right-of-way permit is not required for the project. Payment for the preparation and implementation of a traffic control plan shall be considered incidental to the project. The contractor shall coordinate with the Tribal Utility on the preparation and implementation of the traffic control plan.

SECTION 06 – SANIARY SEWERS

A. Technical Provision Section 1 (TP-06.03B)

Change:

"Frames and covers shall be Neenah R-1595, Jensen Model A-1024 or approved equal. The manhole lid shall be cast with the word "SANITARY SEWER"."

To:

"Frames and covers shall be Neenah R-1595, Jensen Model A-1024 or approved equal. Frames and covers installed in non-traffic areas shall have a vertical tab to prevent lateral movement (D&L Supply A-1055, or equal). The manhole lid shall be cast with the word "SANITARY SEWER"."

Add after h:

"i. The Contractor shall install a rust preventative permanent coating to the manhole frame and cover prior to installation. Coating shall be POR-15® Rust Preventive Coating, or equal."

B. Technical Provision Section 1 (TP-06.03.B.3.h)

General:

Manhole inserts are required for all manhole frame and cover rehabilitations on this project. Rehabilitation activities include frame and cover replacement, adjustment, and covers receiving bolt replacement and mating surface rehab.

C. Technical Provision Section 1 (TP-06.11)

General:

Manhole vacuum or hydrostatic testing is not required for this contract.

TECHNICAL PROVISIONS

SECTION 01 - TRENCH EXCAVATION AND BACKFILL FOR PIPELINES AND APPURTENANT STRUCTURES

TP - 01.01 SCOPE:

The work covered by this section includes the furnishing of all labor, tools, equipment, and materials and performing all operations in connection with the excavation, trenching and backfilling of all pipe lines, structures and accessories.

Excavation, as used in these specifications refers to all construction activities necessary to install subsurface utilities in accordance with the plans and specifications. Such activities include, but are not limited to:

A. All necessary clearing, grubbing and site preparation; removal of all materials that may interfere with construction activities (except existing pipe work, conduits, utility structures or other items to be left in place) to the lines and grades indicated on the plans and otherwise described herein.

B. Removal and/or storage of subsurface materials from trench and construction excavation areas to allow installation of designated utilities or structures. All suitable material removed from excavations shall be used, insofar as practicable, in the formation of embankments, fills and backfilling.

C. Preparation of sub-grades and backfilling of trench and construction areas upon completion of utility or structure construction.

D. All necessary bracing, shoring and protection (but not including tight sheeting in trenches and structure excavation ordered left in place by the Owner or Owner's Representative).

E. Final grading, dressing and cleanup of the construction site.

TP - 01.02 SAFETY - PROTECTION OF EXCAVATION, WORK AND PERSONS:

The Contractor shall provide safe working conditions at all excavations. All trench excavation shall be coordinated in strict accordance with current Occupational Safety and Health Standards (OSHA) - Construction Standards for Excavations (29 CFR Part 1926, Subpart P) issued by the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) as well as applicable state and local regulations. It is the Contractor's responsibility to become knowledgeable of the regulations and comply with all requirements contained therein.

Excavations and adjacent areas shall be inspected daily by an OSHA certified competent person provided by the Contractor for evidence of hazardous conditions. A record of these inspections shall be kept by the Contractor and be made available to the Owner upon request. Workers in excavations shall be protected from cave-ins. Protection can be by sloping and benching systems, support systems, shield systems, and/or other protective systems as described in the regulations. Only excavations which are entirely in stable rock or excavations which are less than five (5) feet in depth and, upon examination by a competent person, show no indication of potential cave-in are exempt from the requirement for cave-in protection.

A. Trenches: No material shall be placed within two (2) feet of the edge of the excavation. Where employees are required to be in excavations more than four (4) feet deep, an adequate means of exit such as a ladder or steps shall be provided and located so as to require no more than 25 feet of lateral travel. It is the Contractor's responsibility to become knowledgeable of the regulations and comply with all requirements contained therein. The total length of open trench shall not exceed 500 feet at any time. Trenches shall be completely backfilled at the end of each working day, unless otherwise approved by the Owner or Owner's Representative and appropriate protection is utilized.

B. Shoring and Sheeting Sections:

1. Protection of employees in excavations shall conform to applicable OSHA Standards. Any trench protection and modification to trenching safety plans shall be submitted to the Owner or Owner's Representative in writing to be maintained as part of the record.
2. The Contractor shall install all shoring and sheeting systems required to prevent cave-ins and protect employees, adjacent property, and adjacent structures in accordance with current OSHA standards. No extra payment will be made for these items, the cost thereof being merged with and considered a part of the cost for the related excavation.
3. Before sheeting is withdrawn, or trench boxes moved forward, they shall be raised, in place, just above the pipe crown to safely allow the Contractor to completely fill any voids left in the pipe zone.

C. Personal Protective Equipment: The Contractor shall ensure that all employees wear proper protective clothing during construction in accordance with the current OSHA standards. The following measures or provisions are to be adhered to at all times during the construction project:

1. Hard hats shall be worn by all personnel working on the site.
2. Safety shoes or boots will be worn by all personnel working on the site.
3. When appropriate, proper safety vest or fluorescent (yellow, green or orange) safety shirts shall be worn by all personnel working on the site
4. When appropriate, proper eye and hearing protection shall be worn by all personnel working on the site.
5. When appropriate, proper gloves shall be used by personnel working on the site.
6. All visitors to the project job site shall be required to wear proper hard hat and safety vest while on the job site. No unauthorized person(s) shall be allowed on the job site. Owner's Representatives on the job site for inspection or engineering consulting work shall wear all of the above listed personal protective equipment, as appropriate.
7. All heavy construction machinery, such as trenching machines, bulldozers, and backhoes, must be equipped with a roll bar and a back-up beeper meeting the requirements of the above referenced regulation.

TP - 01.03 WORK WITHIN RIGHT-OF-WAYS & TRAFFIC CONTROL:

All work within the right-of-way of a street, road, highway, or other public thoroughfare, including roads, sidewalks or trails, or work which requires encroachment into the right-of-way of a public thoroughfare, shall incorporate adequate signs, barricades, warning lights, and/or flagmen to ensure the protection of the work, protection of the workers, and the safety of the public. When performing any work within the right-of-way of roads or railroads, the Contractor shall comply with the right-of-way permit, as applicable, for the installation including all of the requirements for traffic control and compaction. All work within the right-of-way of roads shall be performed in accordance with the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-14, Division 600" and/or local, municipal, state or other federal requirements as noted.

In addition, the Contractor shall submit a traffic control plan to the appropriate right-of-way controller and the Owner or Owner's Representative for review and approval prior to any work within the right-of-way of any roads or railroads. The plan shall be in accordance with any applicable encroachment permits prior to any work with the right-of-way of any road or land. Any deviation from the plan must be submitted for review and approval by the appropriate right-of-way controller and Owner or Owner's Representative. All open construction, obstructions, or other hazards left in place at the end of a work session shall be barricaded and marked by yellow warning lights, which shall be illuminated from sunset to sunrise. All signs, barricades, warning lights, and other

traffic control devices, and all traffic control activities shall be in accordance with the most recent edition of the Federal Highway Administration "Manual on Uniform Traffic Control Devices" (ANSI D6.1), OSHA regulations, and the requirements of the transportation department which owns or maintains the thoroughfare.

The Contractor shall at all times perform his work so as to cause the least possible inconvenience to the general public and the residents in the vicinity of the work, and to ensure the protection of persons and property in a manner satisfactory to the Owner.

No road or street shall be closed to the public except with the permission of the Owner and proper governmental authority. Private driveways shall remain open to the maximum extent possible. Fire hydrants on or adjacent to the work shall be kept accessible to firefighting equipment at all times.

Temporary provisions shall be made by the Contractor to ensure the use of sidewalks, and the proper functioning of all gutters, sewer inlets, drainage ditches, and irrigation ditches, which shall not be obstructed except as approved by the Owner.

TP - 01.04 ROAD, RAILROAD AND SPECIAL UTILITY CROSSINGS (IF REQUIRED):

The Contractor shall be responsible for compliance with all requirements of special crossing permits applicable to this project. The Contractor shall provide copies of such permits prior to the commencement of work. If no crossing permits are appended, and such crossings are indicated on the plans, crossings will comply with all applicable provisions of Technical Provisions 11, in addition to those indicated under other provisions of this Technical Provision. At least two (2) working days' notice shall be given to the Owner or Owner's Representative before work is done on any crossing.

TP - 01.05 DRAINAGE:

The Contractor shall control the grading in the vicinity of the excavation so that the ground surface is properly sloped to prevent water from running into the excavated areas. Water that has accumulated in the excavation from rainfall and/or surface runoff, or from any other cause which might have been prevented by proper care and foresight, shall be removed and the subgrade restored to its proper bearing capacity prior to commencing construction activities, all at the Contractor's expense.

TP - 01.06 PROTECTION OF EXISTING UTILITIES:

The Contractor shall call and utilize the appropriate underground service location company to mark existing utilities within the project area. It shall be the Contractor's responsibility to determine the locations of existing underground utilities including, but not limited to, gas lines, fiber optic lines, telephone lines, pipelines, and drainage lines (storm drains, channels and ditches), not shown on the plans and to confirm the exact locations of those existing utilities shown on the plans. Existing utilities shall be protected from damage during excavation and backfilling of trenches, and if damaged, shall be repaired or replaced at the Contractor's expense. Broken water lines must be cleaned, disinfected, and flushed in accordance with AWWA C651 before being returned to service.

Continuation of the excavation shall not be permitted until damaged utilities have been repaired to the satisfaction of the Owner and the respective utility company. It shall be the Contractor's sole responsibility to protect or remove and replace any or all culverts as required for the satisfactory performance of the work.

TP - 01.07 LOCATING FACILITIES FOR INSTALLED SANITATION FACILITIES:

A. Warning Tape and Tracer Wire:

1. Warning Tape: Warning tape shall be installed 18-inches directly above the crown of the water, sewer, electrical, or other pipe with the printed side up. The warning tape shall also be installed as continuous skirting at the exterior of manholes, valve boxes, or other installed apparatus. For water pipes (mains and service lines), the warning tape shall be BLUE in color with "CAUTION: BURIED WATER

LINE BELOW" continually printed on it. For sewer pipes (mains and service lines), the warning tape shall be GREEN in color with "CAUTION: BURIED SEWER LINE BELOW" continually printed on it. For electrical lines, the warning tape shall be RED in color with "CAUTION: BURIED ELECTRICAL LINE BELOW" continually printed on it. The tape shall be minimum 3-inches wide, 5 mils total thickness and composed of plastic with a metal foil core. Where tracer wire is buried with the pipe line, the locator/warning tape may be plastic without metal foil.

2. Tracer Wire: For water mains and water service lines. Direct bury 10 AWG copper clad steel wire as manufactured by Copperhead Industries, LLC, or direct bury 10 AWG solid copper wire as manufactured by Agave Wire LTD, minimum 261-lb break load with 30 mil High Molecular Weight Polyethylene jacket, blue color, or approved equal. The tracer wire shall be attached to the pipe a minimum of three (3) times for each pipe length.

   a. The tracer wire shall be securely bonded together with an approved underground waterproof splice kit at all wire joints to provide electrical continuity, and it shall be accessible at all trace wire access points. The underground waterproof splice kit shall be equal to 3M Direct Bury Splice Kit DBR/Y-6. If tracer wire is installed, the Contractor shall provide (2) extra Underground Waterproof Splice Kits to the operating utility.

   b. Tracer wire access points shall be Copperhead SnakePit Roadway as manufactured by Copperhead Industries, LLC or approved equal. Materials used to construct lid and tube shall be non-corrosive or corrosion resistant. Tube material shall be of high grade ABS, or equivalent rigid plastic that meets or exceeds ASTM D-1788, Type 1 requirements. Lid material shall be of cast iron or ductile iron and color-coded according to American Public Works Association (APWA) standards. Blue designates water, and green designates sewer. Spacing between tracer wire access points shall be indicated on the plans or as specified be the Owner.

      Tracer wire shall be connected securely to the direct connection hook-up point. Soil around the access box shall be properly compacted. The top of the access box shall be installed to finished grade. Slope final grade away from box for drainage.

   c. All tracer wire shall be tested for continuity after installation in the presence of the Owner's Representative. Tracer wire shall be repaired or replaced, as necessary, until continuity is achieved, at no additional cost to the Owner.

B. Utility Line Markers, Bollards, and Metal Marker Posts: Retroreflective tape shall be installed around the utility line markers, bollards, and metal marker posts according to the manufacturer's recommendation. Tape placement shall be approximately 6-inches from the marker top as shown on details. The 6-inch tape shall be 3M High Density Yellow Pressure Sensitive or approved equal. Concrete shall meet the requirements of TP 02.

   1. Utility Line Marker: Shall be a minimum of 66 inches in length and 3-3/4 inches in width. The utility marker may be installed within the ROW if approved by the Owner or Owner's Representative. The location and frequency of the utility line markers is indicated on the plans. The utility line markers shall be installed directly over the item that it is marking with an anchor barb bury depth of 18-inches.

      a. Water markers shall be blue in color, model CRM306608 with anchor barb and "CAUTION WATER PIPELINE" text on the marker as manufactured by Carsonite Composites, or equal.

      b. Sewer markers shall be green in green, model CRM306607 with anchor barb and "CAUTION SEWER PIPELINE" text on the marker as manufactured by Carsonite Composites, or equal.

   2. Bollards: Bollards shall be 78 inches long with a four (4) inch diameter post. They shall be installed to leave 48 inches exposed above ground.

      a. The four (4) inch diameter posts shall be aluminum or steel pipe filled with concrete. Bollards shall be painted with a minimum of two (2) coats of yellow paint designed for outdoor commercial

use. Bollards shall be properly cleaned and the surface prepared in accordance with the paint manufacturer's recommendations prior to painting. Under no circumstances shall bollards be installed within the right-of-way of any roadways, unless specifically indicated on a right-of-way permit or as approved by the right-of-way controller.

b. Set bollards in 12-inch diameter holes full of concrete. Set depth of bollard in 30-inches of concrete according to the detail drawing. Posts shall be set in a vertical position, plumb, in line and centered in the footing. Six (6) inches of concrete shall be placed under the post and concrete shall extend two (2) inches above grade and be crowned to shed water. Forms are not required, but may be used.

3. Metal Marker Posts: Markers shall be 66 inches long, 2-1/2 inches diameter, concrete filled, with a two (2) inch diameter stampable aluminum or brass cap. The cap shall be Berntsen Model CD2L, or approved equal. Metal marker posts shall be installed to leave 36 inches exposed above ground.

a. The 2-1/2 inch diameter aluminum or steel utility markers with stampable aluminum or brass caps shall be installed to mark the location of all marked facilities. Marker posts shall be painted with a minimum of two (2) coats of yellow paint designed for outdoor commercial use. The marker posts shall be properly cleaned and the surface prepared in accordance with the paint manufacturer's recommendations prior to painting. Under no circumstances shall metal marker posts be installed within the right-of-way of any roadways, unless specifically indicated on a right-of-way permit or as approved by the right-of-way controller.

b. Set metal marker posts in concrete in 10-inch diameter holes and depth of metal marker post in concrete of 30 inches. Posts shall be set in a vertical position, plumb, in line and centered in the footing. Six (6) inches of concrete shall be placed under the post and concrete shall extend two (2) inches above grade and be crowned to shed water. Forms are not required, but may be used.

TP - 01.08 EXCAVATION:

All excavation, other than by drilling and blasting, undertaken with the excavation equipment commonly used in the industry for this type of excavated material shall be classified as common excavation.

All excavation shall be made by open cut method except as approved or specified. During excavation, materials suitable for backfill shall be neatly piled no closer than 24-inches from the edge of the excavation. All materials not required or not suitable for backfill shall be removed and wasted at locations designated by the Owner or Owner's Representative.

A. Width: The sides of all trenches for the installation of utility piping systems shall be as nearly vertical as soil conditions will permit from ground level to the pipe. Except for the trenching of 1-inch water service lines, the width of the trench shall not be less than 16-inches nor more than 24-inches wider than the outside diameter of the pipe barrel. Trench excavation shall be centered on pipe alignment such that a minimum clear space of eight (8) inches is provided on each side of the pipe. Trench width above the level of the top of the pipe may be as wide as necessary for shoring or sheathing and for proper installation of the work.

B. Depth: The trench shall be excavated to the depth that permits pipe to be laid at the elevations shown on the plans or with the required depth of cover specified by the Owner or Owner's Representative, such as below the frost line. Depth of cover shall be measured from the finished grade or the surface of the permanent improvement to the top of the pipe barrel.

C. Preparation: The bottom of the trenches shall be accurately shaped to line and grade and shall provide uniform bearing and support for each section of the pipe on specifically placed bedding material at every point along its entire length. Bell holes and depressions for joints shall be dug after the trench bottom has been graded and shall be only of such length, depth and width as required for properly making the

particular type joint. Care shall be taken not to excavate below the depths indicated. Unauthorized over depths shall be backfilled with suitable bedding material at the Contractor's expense.

D. Previous Excavation: If the trench passes over a sewer or other previous excavation, the trench bottom shall (1) be compacted to provide support equal to that of the undisturbed native soil or (2) conform to the specific regulatory requirements that preclude damage to the existing installed facility.

E. Unstable Subgrade: Where soft, spongy or otherwise unsuitable material is encountered, which will not provide a firm foundation for pipe, the Owner or Owner's Representative will direct the extent to which removal and replacement shall be made with suitable material. Special pipe foundation material is NOT anticipated. However, if required, a price shall be negotiated between the Owner and Contractor for special pipe foundation material.

F. Underground Obstructions: The Contractor shall preserve intact any underground pipes, culverts or other utilities encountered during construction (except as hereinafter permitted) provided their location is such that they do not interfere with new pipelines or structures being installed. The Contractor shall notify all appropriate utility authorities of his construction schedule so they may be at the site to locate and protect their property. If any utilities or structures are accidentally broken or disturbed, they shall be replaced immediately to a condition at least equal to that in which they were found, all at the Contractor's expense.

Couplings used to repair water and sewer mains or service lines shall be approved by the operating utility and the Owner or Owner's Representative. The repair work shall be done in a manner acceptable to the Owner or Owner's Representative and the utility company. Any existing water or sewer services that will intersect or interfere with the new pipelines or structures shall be rerouted by the Contractor in the manner indicated by the Owner or Owner's Representative.

Existing water or sewer services from the mains to private property that interfere with trenching operations may be cut and replaced at the Contractor's option and expense, provided that users of such services are notified at least 2 hours in advance and that the use of such service shall in no case be interrupted for more than 4 hours, unless specifically permitted in writing by the user. Materials and construction for these items shall be as provided in other sections of these specifications. All new and existing water and sewer mains and water and sewer services shall be protected from freezing at all times during construction.

G. Rock: The inclusion of a bid item and estimated quantity for rock excavation in the Bid Schedule indicates that rock excavation is probable. However, the exclusion of this item from the Bid Schedule does not preclude the possibility that rock will be encountered; it merely indicates that it is not anticipated. If unanticipated rock excavation is needed, the Contractor and the Owner will negotiate a price for the rock excavation.

Should rock excavation be required, it shall be the responsibility of the Contractor to have an experienced powderman handle all blasting and be able to furnish proof of credentials to the Owner. The Contractor shall comply with all laws, ordinances, applicable safety code requirements and regulations relative to the handling, storage and use of explosives and the protection of life and property. The blasting Contractor shall be licensed by the state in which the blasting is conducted. Blasting shall be conducted in accordance with OSHA guidelines. All necessary permits shall be secured and submitted to the Owner or Owner's Representative. The Contractor shall protect all adjacent utilities lines, property and structures from the blasting operation. The Contractor shall be responsible for any damage and injury caused by blasting operations. The Contractor shall inform all residents in the vicinity of proposed blasting activities and shall be responsible for any damage to persons or property as covered in the General Provisions.

Vibration Control (Ground Vibration) – Whenever vibration damage is possible, monitor each blast with a seismograph located, as approved, between the blast and the closest structure subject to blast damage. Peak particle velocity shall not exceed safe blasting recommended criteria, established by the Office of Surface Mining – OSM Alternative Blasting Level Criteria (Modified from Figure B 1, R1 8507 U.S Bureau of Mines.

Where blasting is required within 2,000 feet of any building, the blasts shall be covered with suitable weighted plank coverings or mats to confine all materials lifted by blasting. There shall be no blasting within 40 feet of the finished pipeline. The open end of the finished pipe line shall be closed and covered with earth to a depth 1 foot or greater before each blast. All charges shall be fired electrically. Erect suitable barricades and/or warning signs on all public thoroughfares leading to the site of blasting operations. Give adequate audible warning before each blast.

The Contractor shall repair any damages caused by rock excavation operations. The Contractor shall remove the excavated rock from the site unless otherwise directed by the Owner or Owner's Representative.

The following paragraphs define solid rock and loose rock excavation.

1. Solid rock shall be defined as large masses of igneous, metamorphic, or sedimentary rock that, in the opinion of the Owner or Owner's Representative, cannot be excavated without drilling, blasting, or the use of rippers or other specialized equipment. Any material excavated without the use of blasting or specialized ripping equipment shall not be considered solid rock.

   Solid rock excavation shall be measured in cubic yards from the top of the rock to a point 4-inches below the invert of the installed pipe and an assumed 24-inch trench width, regardless of the actual trench width and depth excavated. For structures, the rock shall be profiled at 12-inches outside the perimeter of the structure. The profile shall extend from the top of the rock down to the bottom of the rock to a maximum of 6-inches below the structure's footing. The rock volume shall be measured and computed by the Owner or Owner's Representative. The measurements shall be within the nearest 0.1-feet from the surface and no less than every 10-feet along the rock profile by one of the following methods:

   a. Excavating, ripping and exposing the rock profile for measurement, prior to any blasting. This shall be the responsibility of the Contractor and no additional payment shall be made for this excavation.

   b. Rock profile determined by drilling without excavating and measurements taken prior to any blasting.

   c. Rock profile measured after blasting and excavation. A 20% deduction shall be made in rock determination when this method is used to allow for expansion in ledge due to blasting.

2. Loose rock shall be defined as boulders and other detached stones each having a volume of one (1) cubic yard or more, but can be removed without drilling, blasting, or the use of a ripper or other specialized equipment. Loose rock shall be removed from the excavation in such a way that a clear distance of at least 4-inches exists between the rock and the bottom of the pipe, and 6-inches exist between the rock and the bottom of the structure. Loose rock shall not be used for backfill. Loose rock excavation shall be measured in cubic yards as the total volume of only those rocks or boulders that are individually over one (1) cubic yard in volume. The rock volume shall be confirmed with the Owner or Owner's Representative.

   A trench in which rock is encountered shall be excavated at least 4-inches deeper than the pipe invert and refilled to the required elevation with sand, gravel, or crushed rock passing a ¾-inch mesh screen. Bedding material shall extend upward at least 12-inches above the top of the pipe. Payment for this fill material shall be considered incidental to the rock excavation and no additional payment shall be made.

H. Structural Excavation: Excavation for structures (e.g., vaults, tanks, manholes, lift stations), shall extend a sufficient distance from walls and footings to provide for forming, except where concrete for walls or footings is authorized to be deposited directly against excavated surfaces. Care shall be taken to avoid

excavating below the depths indicated in the plans. Over-excavation shall be restored to proper elevation by filling with suitable granular bedding material at the Contractor's expense.

I. Removal of Nuisance Water: The Contractor shall remove and dispose of water entering the trenches and shall keep the trenches water free until the facilities are in place and sealed against the entrance of water. Use of a "trash" pump for removal of nuisance water shall be at no extra cost and shall not be considered dewatering. In no case shall water, earth, or any foreign materials be allowed to enter the water or sewer lines.

1. The removal of nuisance water is determined by pumping the water out of the trench with a heavy-duty 4 inch construction trash pump with a strainer for a minimum of 1 hour. The strainer shall be placed in a bed of pea gravel or a slotted PVC pipe in order to screen the debris.
2. All water removed from trenches shall be conveyed to natural drainage channels, storm sewers, or proper reservoirs as approved by the Owner or Owner's Representative. Such removal of water shall be in a manner that prevents property damage, erosion, or sedimentation.

TP - 01.09 DEWATERING:

The inclusion of a fee schedule item and estimated quantity for dewatering in the fee schedule indicates that dewatering is probable. However, the exclusion of this item from the bid schedule does not preclude the possibility that water will not be encountered, it merely indicates that it is not anticipated.

If continuous pumping with well points is required to maintain a satisfactory trench, and the Contractor is so directed by the Owner, this work shall be considered as dewatering. Well points shall be set separately for each trench being dewatered. Dewatering shall be based on the actual number of lineal feet of trench dewatered. Should dewatering not be included within the fee schedule, dewatering shall be paid for at the negotiated price between the Contractor and Owner.

TP - 01.10 SEPARATION OF WATER AND SEWER PIPELINES:

Water lines located near sewer facilities present conditions for potential cross contaminations. Protection from cross contamination can be provided by separation of the facilities and use of extra protection measures. For measuring separation, all measurements shall be the clearance between pipes and/or structures.

The angle of a water line and sewer line crossing shall be limited to between forty-five (45) degrees and ninety (90) degrees from parallel. Intersection angles of less than forty-five (45) degrees shall not be permitted.

Water lines and sewer lines shall not be constructed within a common trench.

For the purposes of this section, the term "lines" shall include mains, laterals, and service lines for both water and sewer.

A. Separation of Water and Gravity Sewer Lines: When water and sewer lines are laid parallel to each other, the horizontal distance between the water and sewer lines shall be at least 10 feet. Each line shall be laid in a separate trench.

When physical conditions, such as an existing obstruction, do not allow the required ten (10) foot horizontal separation, the water and sewer lines may be laid as close as five (5) feet if the bottom of the water line is at least 18 inches above the top of the sewer line.

If these requirements cannot be met, extra protection shall be required per section TP-01.10.F.

When water lines cross sewer lines, the water line shall be above the sewer line with no less than 18 inches vertical clearance.

Where a water line must cross under a sewer line, a 20 foot water pipe section shall be centered under the sewer line with a minimum vertical clearance of at least 18 inches between the bottom of the sewer line

and the top of the water line. New water and sewer lines being installed that are crossing, shall be arranged so that the pipe line joints of both the water and the sewer are equidistant and as far as possible for each line's joints.

If these requirements cannot be met, extra protection shall be required per section TP-01.10.F.

B. Separation of Water and Pressurized Sewer Lines: Water lines shall not be placed within ten (10) feet horizontal and within three (3) feet vertical above or below a pressurized sewer line.

Extra protection, as described in section TP-01.10.F, shall be required where a water line is placed within ten (10) feet horizontal and within three (3) feet vertical above a pressurized sewer line.

Extra protection, as described in section TP-01.10.F, shall be required where a water line is placed within ten (10) feet horizontal and any distance below a pressured sewer line.

C. Service Line Separation: Water and sewer services shall meet the horizontal separation requirements listed above, except where water and sewer services unavoidably must enter the building with less than 10 foot separation, the services shall diverge to achieve the required separation within 10 feet of the building wall. Water and sewer services crossing other service or mains shall meet the vertical separation requirements listed above.

If these requirements cannot be met, extra protection shall be required per section TP-01.10.F.

D. Water Main Separation from Sewer Manholes: No water pipe shall pass through, under, or come into contact with any part of a sewer manhole and shall be separated ten (10) horizontal feet from the closet edge of a sewer manhole.

If these requirements cannot be met, extra protection shall be required per section TP-01.10.F.

E. Separation between Water Lines and Components of the Sewage Disposal System: Water mains and water service lines shall meet the following minimum separation distances:

1. 10 feet to Sewer Manhole
2. 10 feet to Septic Tank
3. 25 feet to Septic Drainfield
4. 50 feet to Outhouse
5. 100 feet to Fence of Individual Lagoon
6. 500 feet to Fence of Community Lagoon

F. Extra Protection: When separation between water lines and sewer facilities cannot be accommodated, extra protection shall be required. Prior to the use of these extra protection measures, approval must be obtained in writing from the Owner.

New water lines that require extra protection from new sewer lines, shall have extra protection provided by using ductile iron pipe for one of the water or sewer lines. Lines of standard pipe length shall be centered at the point of crossing so that no joints exist within six (6) feet horizontal and only restrained or mechanical joints exist within 15 feet horizontal.

New water lines that require extra protection from existing sewer lines shall be constructed using the extra protection specified for new water lines, and the existing sewer line shall be encased in 6 inches around the circumference of the pipe of concrete for the horizontal distance of the line that requires extra protection but for a distance no less than ten (10) feet horizontal to ensure a water tight seal.

New water lines that require extra protection from existing sewer lines shall be constructed using the extra protection specified for new water lines, and the existing sewer line:

1. shall be reconstructed using a standard length of ductile iron pipe centered at the point of crossing so that no joints exist within six (6) feet horizontal and only restrained or mechanical joints exist within ten (10) feet horizontal, this shall include providing the necessary sewage by-pass means during construction as needed to prevent obstructing sewage flow in the existing line or.
2. shall be encased in 6 inches of concrete for the horizontal distance of the line that requires extra protection but for a distance no less than ten (10) feet horizontal.

Existing water lines that require extra protection from new sewer lines shall provide for extra protection by:

1. constructing the new sewer line and reconstructing the existing water line using ductile iron pipe for both lines with standard pipe lengths centered at the point of crossing so that no joints exist within six (6) feet horizontal and restrained or mechanical joints exist within ten (10) feet horizontal, or
2. encasement of both the existing water line and the new sewer line in six (6) inches of concrete for the horizontal distance of the lines that require extra protection but for a distance no less than ten (10) feet horizontal.
3. Extra protection for existing ductile iron water lines shall be met by the installation of restrained or mechanical joints on the existing water line within ten (10) feet horizontal of the crossing and either
    a) construction of new sewer line using a standard pipe length of ductile iron pipe centered at the point of crossing so that no joints exist within six (6) feet horizontal and restrained or mechanical joints exist within ten (10) feet horizontal, or
    b) encasement of the new sewer line in six (6) inches of concrete for the horizontal distance of the line that requires extra protection but for a distance no less than ten (10) feet horizontal.

Encasement of either the water lines or the sewer lines may be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be made of materials approved by the Owner or Owner's representative.

Installation of additional pipe or fittings or concrete for extra protection as required by the pipe alignment shown on the plans shall be incidental to the respective water or sewer line construction. Payment for unexpected utility crossings that require extra protection shall be negotiated between the Contractor and the Owner.

G. Polystyrene Insulation: Rigid extruded polystyrene insulation board shall have a minimum compressive strength of 25 psi. Width shall be 4-feet for mains 6-inch (nominal diameter) and larger and 2-feet for mains and service lines less than 6-inches (nominal diameter). Unless otherwise shown on the plans, the insulation board shall be installed 6-inches above the pipe and shall be a minimum of 2-inches thick.

TP - 01.11 BACKFILLING:

This section describes requirements for backfilling any excavation made to install buried pipeline, structure, or other item where structural fill is placed. It describes the material, placement, and compaction requirements.

A. Trenches and Pipes: Bedding and backfill materials to a depth of 12 inches above the pipe shall be carefully deposited in layers not more than six (6) inches thick (loose measurements), wetted to optimum moisture content, and hand or mechanically compacted. Fill used for this bedding and initial backfill shall meet the requirements set forth herein. The excavation material shall be placed in layers not to exceed 12 inches and compacted to the density specified in section TP-01.12 from 12 inches above the pipe to ground surface. Final backfill shall be left in a uniform, neat condition matching the surrounding grade.

B. Structures: Backfill materials shall be placed gradual and even to prevent tipping. Backfill shall be placed around structures with lifts not exceeding 12 inches and compacted to the density specified in TP-01.12. Backfill material shall meet the specifications identified herein. Generally, compact the fill in the same

manner as the standard trench procedure. Backfill compaction equipment should be suited for site conditions to avoid damage to installed structures.

Wherever trenches or surrounding structures have not been properly filled, or if settlement occurs, they shall be reopened to the depth required for proper compaction and refilled and re-compacted as specified and approved by the Owner or Owner's Representative at the Contractor's expense.

Compaction methods and equipment may utilize hand and mechanical tampers and rollers. The equipment and procedures proposed by the Contractor shall be appropriate for the respective soils and shall be subject to the approval of the Owner or Owner's Representative.

C. Materials: All backfill material shall be approved in advance of installation by the Owner or Owner's Representative. Materials shall be obtained from areas approved by the Owner or Owner's Representative.

Backfill material will not be paid for separately, but shall be considered as subsidiary to and a part of the cost for the applicable contract bid item.

1. Embedment: Embedment is that material from the bottom of the trench to 12 inches above the pipe, and includes the pipe bedding material (upon which pipe is placed), haunching material (extending from pipe bottom to pipe's vertical centerline), and initial backfill material (extending from pipe's vertical centerline to 12 inches above pipe). Native soil used for embedment must be free from clods of earth or stones larger than 3/4 inch in any dimension, organic refuse, debris, frozen soil, and other objectionable material. If native soil does not meet this criteria and cannot be screened to this criteria, the Contractor shall use imported material.

2. Imported Bedding Material: If required, special bedding material shall consist of sand, sandy gravel, or other suitable granular material having a maximum plasticity index of 6, with 100% of the bedding material smaller than 3/4 inches, and no more than 5% passing a No. 200 sieve. Contractor shall be responsible for the costs of any imported material.

3. Stabilization: Granular stabilization material shall be used to replace soft, spongy, or other unsuitable material, including rock encountered in excavation, to the depths necessary to support the pipe or structure. Stabilization materials shall be underlay bedding material (as applicable) and shall consist of suitable hard, durable granular material having a maximum size of 6-inches, graded so that a maximum of 20% passes a No. 4 sieve. Granular stabilization is not anticipated. If required, a price for granular stabilization shall be negotiated between the Contractor and the Owner.

4. Final Backfill: In general, final backfill will be that material originally excavated from the trench and will extend from 12 inches above the pipe to surface grade. Final backfill material shall be the same as that around the pipe except that the inclusion of a limited amount of stones up to 6 inches in diameter will be permitted.

D. Placement:

1. Embedment: Embedment shall be placed in 6-inch loose lifts and compacted as described herein. Care shall be taken to ensure that the pipe is not supported by the bells of the pipes.

   a) Bedding: Bedding is the fill material below the pipe. To remove stony soils, the Contractor shall excavate approximately 4 inches deeper than the required grade and bed the pipe with imported material. Bedding material is to be compacted to 90% of the maximum dry density as determined by the Standard Proctor density test (ASTM D-698).

      If over-excavation is required for removal of unsuitable native soils (weak structural soils), and bedding material is to be compacted to 95% of the maximum dry density as determined by the Standard Proctor density test (ASTM D-698).

b) Haunching: Haunching is the material from the bottom of the pipe to the vertical centerline of the pipe. The same material used for bedding the pipe shall be used for haunching. After the jointing is completed and the pipe has been approved by the Owner, the haunching material shall be placed by hand and worked under the pipe haunch to provide adequate side support for the pipe. The haunching shall be compacted to 85% of the maximum dry density as defined in TP Section 01.12. Placement and compaction of the haunching shall be achieved so as to avoid damage to or displacement of the pipe.

c) Initial Backfill: Initial backfill is the material from the vertical centerline line of the pipe to 12 inches above the top of the pipe. The same material used for bedding the pipe shall be used for the initial backfill. The initial backfill shall be compacted to the density as defined in section TP Section 01.12. The Contractor shall carefully place and compact the initial backfill in such a manner that damage to or displacement of the pipe does not occur.

2. Final Backfill: Final backfill shall not be placed until the embedment material is placed and compacted to the maximum dry density as defined in section TP-1.12, and the Owner or Owner's Representative have inspected and approved the installation. Final backfill shall be placed in lifts not to exceed 12-inches unless otherwise approved by the Owner or Owner's Representative. Compaction shall be as defined in Section 01.12.

3. Backfill for Road Subgrade: Under existing and proposed roadways, to a distance of 10-feet on either side of the road, bedding and backfill materials shall be carefully deposited in layers not more than 6-inches thick, loose measurements, wetted to optimum moisture content and mechanically compacted as described in the Compaction Requirements, Methods, and Testing section. If applicable, the Contractor shall comply with local, municipal, county, state, and federal highway authority's roadway subgrade standards.

   a) In areas where pavement is to be replaced, or in roads that are to be paved, remove cobbles that may interfere with subgrade preparation. This shall include the backfill within 12 inches of the finished subgrade elevation. The upper 12 inch layer, forming the subgrade for pavements, shall be compacted to a density of at least 95% (ASTM D-698 - Standard Proctor Test). See Section 11 of the Technical Provisions where this is required.

   b) Cement slurry can be substituted for compacted native backfill and subgrade if approved by Owner or Owner's Representative. The cement slurry shall meet the requirements for slurry as provided in TP 02 and shall be placed from the concrete truck at a slump of 6 to 8 inches. Steel plates 5/8 inch thick are to be placed over the trench with at least 6 inches overlap on each side and edged with asphalt to prevent traffic movement. The concrete slurry shall be allowed to set for a minimum of 12 hours before completing the asphalt patch. Slurry can typically be installed from the trench bottom to ground surface and no intermediary subgrade material is required for placement of asphalt patch.

4. Where trenches cross roads, streets, or driveways, backfilling shall be completed immediately following excavation and inspection. No trenches across roads shall remain open overnight. All crossings shall be backfilled, compacted and open to traffic at the end of each day's work. Major road crossings shall be excavated and backfilled in half widths of the traveled way so that at least one-half of the roadway is open to controlled traffic at all times during the work.

5. Backfill Around Structures: Backfill around structures shall conform to the same requirements as those for backfill around piping in unpaved areas, unless more stringent requirements are indicated in other sections of these specifications.

TP - 01.12 COMPACTION REQUIREMENTS, METHODS AND TESTING:

A. Minimum Density: Unless otherwise specified by applicable permits initial and final backfill and gravel resurfacing shall be compacted to the following minimum requirements. The minimum acceptable percent of compaction is the in place dry density divided by the reference density times 100. Compacted soil shall also be at plus or minus 2% of optimum moisture content. Contractor shall contact the operating utility prior to obtaining water from the public water system.

TYPE	LOCATION	REQUIRED COMPACTION
I	Under any existing or proposed pavement, curb, gutter, sidewalk, roadway, shoulder, alley, slab, footing, canal embankment, or when within 2 feet of the above.	95%
II	Within any gas, electric, or telephone utility easement, or within any street or road right-of way outside the limits defined above as Type I.	90%
III	All other locations not defined above as Type I or Type II.	85% (or 100% of adjacent natural ground)

B. Reference Densities/Baseline Testing: The Contractor, at his expense, shall provide the reference densities for the various bedding and backfill materials used. All tests shall be performed by a certified soils testing laboratory approved by the Owner or Owner's representative. If reference to natural ground is used, a nuclear gauge may be used to measure the density of the natural ground.

The reference densities for compaction tests shall be established in accordance with ASTM D-698, Standard Proctor Test. The Contractor shall submit for approval a testing plan identifying proposed testing locations prior to the start of any excavation work. Contractor shall provide copies of the Standard Proctor Tests with 3 point minimum moisture versus density curves.

The Contractor shall coordinate the collection of soil samples for proctor testing with the Owner or Owner's Representative such that both parties are on-site during the collection of soil samples. This will ensure that enough samples are collected to provide for accurate density testing during construction by providing reference density for differing soil conditions within the project area. Should a change in soil be encountered at any point of the installation, a new sample shall be taken and additional test shall be conducted.

C. Methods: Mechanical compaction is permitted. Water jetting methods are not permitted. The backfill shall be uniformly moistened to optimum moisture content, placed in sufficiently thin layers to obtain the specified results, and compacted with hand and/or pneumatic tamping rammers, vibrating plate compactors, sheepsfoot rollers, compaction wheels, hydrohammer, or other device(s) which will obtain the specified density for the particular soil type, without injury to the pipe or related structures.

D. Density Tests: Backfill density tests shall be performed in accordance with the latest versions of ASTM D-1556 (Sand Cone Method), ASTM D-2167 (Rubber Balloon Method), ASTM D-2216 (Moisture Content), ASTM D-2922 (Nuclear Density), and ASTM D-3017 (Nuclear Moisture Content). The Contractor will perform initial field density tests for each location listed in the next paragraph at the expense of the Contractor. Results of the test shall be provided to the Owner and approved prior to continuing. Any additional tests due to failure of initial tests shall be at the expense of the Contractor.

E. The Contractor will perform at least one (1) compaction test at each Type I or II location as defined in TP-1.12. Compaction tests shall be performed at a minimum of five hundred (500) linear feet of trench at Type II or III locations as defined in TP-1.12 and in accordance with the approved Contractor's testing plan as specified above in 01.12.B or as determined by the Owner. The exact test locations shall be

specified by the Owner's Representative. The Owner may request performance of additional tests at the Owner's expense.

If the results of any of the compaction tests indicate insufficient compaction, the area in question shall be reopened to a depth required for proper compacting, then refilled, compacted and retested, at the expense of the Contractor, until the compaction tests indicate that the necessary compaction requirements have been met. Two copies of the test results of any retesting performed by the Contractor shall be provided to the Owner, for his approval, prior to any permanent surfacing. Any improperly placed backfill, or locations where settlement occurs, shall be reopened to the depth required for proper compaction, then refilled and compacted at the expense of the Contractor. The surface shall be restored and resurfaced, if necessary to the required grade.

TP - 01.13 ROADWAY RESTORATION AND PATCHING:

Whenever existing roadways or driveways are disturbed during the normal course of construction, the Contractor shall restore the roads and driveways to their original condition. Surfacing shall be replaced where the roadway has gravel, concrete or asphaltic surfacing. The Contractor shall comply with the standards and construction requirements of the applicable local, municipal, county, state and federal highway authorities, as noted on the plans, special provision or exhibits/crossing permits in this contract. The Contractor shall observe all prescribed traffic safety regulations.

A. Repair of the road shall be complete with adequate subgrade compaction and acceptable restoration of the roadway surface, as specified herein. No scarring of pavement will be allowed from excavation equipment tracks, outrigger shoes or other stabilizers.

Gravel used in regraveling and road base shall be well graded and conform to the following:

SIEVE SIZE	% PASSING
1-1/4	100
#4	38-65
#8	25-60
#30	10-40
#200	3-12

B. All cuts in the pavement between pavement that is to remain and pavement that is to be removed shall be cut straight leaving a clean regular and vertical edge. This edge shall be protected throughout the work, or shall be re-cut before placing the final surfacing material. After the pipe is installed, compacted backfill shall be placed to within 9 to 12 inches of the level of the roadway surface, as applicable.

1. Reinforced Concrete Patch: Compacted aggregate base course, six inches in depth, shall be placed in the roadway immediately beneath the concrete patching. The cut shall be filled with a six inch thick reinforced concrete patch. Concrete shall meet the requirements of Section 02-Concrete. The reinforcement shall be #6 welded wire reinforcement mesh (6-inch by 6-inch). The concrete patch shall be a minimum of four feet wider than the top of the trench and centered over the trench. The Contractor shall notify the Owner at least 48 hours before concrete is poured to allow the Owner or Owner's Representative to inspect patch preparation.

2. Asphalt Patch: Compacted aggregate base course, six inches in depth, shall be placed in the roadway immediately below a bituminous wear course. Asphalt mix surfacing conforming to ASTM D-3515 (Hot-Mixed, Hot Laid Bituminous Paving Mixtures) shall be placed and compacted in accordance with the detail to make the crossing level with the existing roadway. Cold mix is not permitted as a permanent asphalt patch.
3. Regraveling: Where regraveling is required after crossing of the existing roads or driveways, the Contractor shall remove existing gravel surfacing, stockpile the material, and restore the road surface after installation of the pipe. The stockpiled material shall be used for backfilling to within two inches of finished level. The final two (2) inches of gravel surfacing shall conform to the requirements of gravel for re-graveling as listed above in TP 01.13.A. This material shall be placed only in the amount and at the locations designated by the Owner or Owner's Representative. All quantities shall be verified by the Owner or Owner's Representative during placement of the gravel.

TP - 01.14 DISPOSAL OF EXCESS MATERIAL:

Excess material, including rock, broken concrete, bituminous materials, debris, or other materials not suitable for backfill, shall be removed from the site and wasted in the disposal areas selected by the Contractor and approved by the Owner or Owner's Representative.

The disposal of such excess materials will not be paid for separately, but shall be considered as incidental to and a part of the cost for the applicable contract bid item.

TP - 01.15 CLEAN-UP:

Upon completion of the work, the entire site shall be cleared of all debris, and ground surfaces shall be finished to smooth, uniform slopes, and shall present neat and workmanlike appearance. All slopes shall be trimmed and dressed, and all surfaces graded such that effective drainage is assured. Unpaved streets shall be graded smooth to the satisfaction of the Owner or Owner's Representative.

TP - 01.16 TRENCH MAINTENANCE:

The Contractor shall, for a period of one year after completion and final acceptance of the work, maintain, and repair any trench settlement that may occur and shall make suitable repairs to any pipe, pavement, or other structures that may become damaged as a result of backfill settlement.

TP - 01.17 STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

For surface disturbances greater than one (1) acre in size, the Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the latest requirements of the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Large and Small Construction Activities. The SWPPP must be prepared in accordance with good engineering practices and must 1) Identify all potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the construction site; 2) Describe practices to be used to reduce pollutants in storm water discharges from construction site; 3) Assure compliance with the terms and conditions of the NPDES General Permit.

If the Contractor is not experienced in the preparation of SWPPP, the Contractor shall retain the services of a sub-consultant regularly engaged in the preparation of SWPPP to perform said service. The completed SWPPP must be approved by the Owner or Owner's Representative at least 10 business days before the start of construction so that a Notice of Intent can be sent to EPA.

The Contractor shall fully implement the SWPPP from the commencement of construction until final stabilization, as defined in the NPDES General Permit is achieved.

The Contractor shall maintain and update the SWPPP, as required in the NPDES General Permit, during construction. Updates shall include amendments required as a result of the ineffective controls discovered through the course of inspections or investigations conducted by the Owner or Owner's Representative, site staff, or by local, state, tribal or federal officials. The Contractor shall submit a Notice of Intent to EPA to obtain permit coverage, modify the coverage as necessary, and terminate permit coverage once final stabilization is achieved.

TP - 01.18 LINES AND GRADES:

The Owner or Owner's Representative will give all lines, grades and building locations on the plans and will supply the Contractor with the AutoCAD drawing to stake out the facilities to be installed. The Contractor shall be responsible for staking out pipeline centerlines with a lath every 200 feet or line-of-sight whichever is less. Bends, alignment, intersections, manholes, lift station centers and fence corners shall be staked by the Contractor and provided with two offsets for alignment. Elevation references will be provided as shown on the plans, for sewer lines, lift stations, vaults, tanks, sewer manholes, and other facilities where elevations are critical to the performance of the system. The Contractor shall be responsible for the preservation of the location and line and grade stakes when set, and if disturbed, shall have such stakes replaced.

TP - 01.19 CLEARING AND GRUBBING:

It is the Contractor's responsibility to clear and grub the site prior to or during construction. The Contractor shall remove all trees along the water and sewer main alignments in accordance with Tribal and local regulations. Proper approvals must be obtained as necessary prior to removing and disposal of trees and vegetation. Trees may either be chipped with a wood-chipper and placed over the trench for erosion control or disposed of at the Contractor's expense. Clearing and grubbing shall be done at the Contractor's expense.

TP - 01.20 FINISH GRADING:

After the structures have been constructed and installed, all piping installed, all required compaction and density testing has been performed and all backfilling and embankments have been completed, areas on the site of the work shall be brought to the true grades. All slopes shall be trimmed and dressed, and all surfaces graded such that effective drainage is assured. Final grading shall prevent water runoff from pooling around installed facilities. The Contractor shall leave each project site in a neat and orderly condition, restoring it as near as possible to its original condition and to the approval of the Owner or Owner's Representative.

TP - 01.21 SEEDING:

All disturbed areas shall be returned to their pre-construction vegetative state. The Contractor shall submit a seed mix that is equivalent to state highway or local road authority's approved seed mix. The Contractor shall protect the seed after it is placed with a tackifier, hay mulch, straw mulch, wood cellulose mulch, or as approved by the Owner. A minimum of 20 pounds of seed per acre shall be placed. Seed shall be placed by either drill seeding at a depth of approximately one (1) inch or broadcast seeding. If broadcast seeding is utilized, the Contractor shall apply twice the minimum seeding rate (i.e. 40 pounds of seed per acre). The Contractor shall perform maintenance as needed to ensure that adequate vegetative growth and stabilization has taken place to minimize erosion after construction is completed.

TP - 01.22 RECORD DRAWINGS:

The Contractor shall be responsible for keeping accurate records of all installed items under sections of the Technical Provisions package. These records shall indicate revised changes ("red-lines") of the construction drawings in sufficient detail to be accepted by the Owner or Owner's Representative for record drawings. Sufficient detail under this contract means that the Contractor shall take accurate measurements and record them on the drawings to provide the minimum information of at least two swing ties and distances to permanent objects. These permanent objects shall include but not be limited to all: valves, pressure reducing valves, air and vacuum valves, meters, curb stops, hydrants, connections to other lines, bends, marker posts, manholes, fence corners,

inspection ports, water and sewer tapping points, cleanouts, septic tank access covers, drainfield extents, intersection with other utilities, connection to existing utilities or home, roadway crossing locations, abandoned facilities, and depths of noted facilities; the beginning and end of any stabilization material placed; the beginning, end, and depth of rock encountered; the beginning, end, and depth of any encasement installed; and the location and depth of any each utility encountered. Further information on record drawings may be contained in the Supplementary Conditions.

The recording of the as-built information is considered an integral part of the progress of this construction and shall be reviewed with the Owner and Owner's Representative in determining progress under this contract. Record drawings shall be submitted by the Final Inspection and before final payment can be made.

TP - 01.23 MEASUREMENT AND PAYMENT:

Except for the following items, the cost of all work done by the Contractor as required under Section 01 of the Technical Provisions shall be merged with the pay items defined within the Measurement and Payment portions of other Technical Provisions of this contract.

A. Solid Rock Excavation: Payment for rock excavation shall be at the unit price listed in the Bid Schedule based on the computed number of cubic yards removed. Separate payments will be made between solid and loose rock excavations.

B. Loose Rock Excavation: Payment for loose rock excavation shall be at the unit price listed in the Bid Schedule based on the computed number of cubic yards removed. Separate payments will be made between solid and loose rock excavations.

C. Imported Bedding Material: If imported bedding material is required as fill to replace stony soil (stones less than 1 cy), it shall be considered incidental to pipe installation and no separate payment shall be made. If imported bedding material is required to replace unsuitable native material (weak structural properties), payment shall be at the unit price shown on the Bid Schedule based on the volume of compacted bedded material as computed by the Owner or Owner's Representative. Payment shall include the necessary over-excavation and the furnishing, installing, grading and compaction of the bedding. No payment shall be made for any imported material not approved by the Owner.

D. Dewatering: Dewatering shall be based on the actual number of lineal feet completed. Payment for dewatering shall be at the contract unit price shown in the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, materials, and incidentals required for a complete dewatering installation.

E. Mobilization/Demobilization: Payment for mobilization/demobilization shall be at the unit price listed in the Bid Schedule. 60% of this line item may be requested upon complete mobilization to the job site and the remaining 40% may be requested upon demobilization from the job site.

F. Storm Water Pollution Prevention Plan: Payment for the preparation and implementation of the SWPPP shall be paid on a lump sum basis as shown on the Bid Schedule. Payment shall be full compensation for plan preparation including required revisions for Owner's acceptance, updates to the SWPPP during construction, permit application, inspections, installation and maintenance of controls, modification of controls as determined by inspections, removal of pollutants due to failed controls, and permit termination.

G. Seeding: Seeding shall be paid for on a lump sum basis to seed the site in accordance with these specifications. Payment for seeding shall be at the contract unit price shown in the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, materials, and incidentals required for complete installation.

H. Exploratory Time: Exploratory time shall be measured on an hourly basis for an actual period spent on locating the existing utility line exceeding two (2) hours. Contractor shall follow these steps:

1. Call the representative from the operating utility and make every effort to locate the existing utility line prior to excavation.
2. Locate the existing utility line for two hours at the Contractor's expense.
3. If the Contractor is unable to locate the existing utility line within two hours, the Contractor shall notify the Owner or Owner's Representative and both agree upon a start time. The start time shall be recorded. When the Contractor locates the existing utility line, the end time shall be recorded.

If the Contractor fails to notify the Owner or Owner's Representative when the Contractor will start locating the existing utility line, the Contractor will not be compensated. Payment for exploratory time shall be at the contract unit price shown in the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, materials, and incidentals required for locating the existing utility line.

I. Record Drawings: The record drawings shall be submitted with or prior to submitting the final invoice and shall be reviewed and approved prior to making the final payment. Payment for this item shall be merged into the other pay items.

SUBMITTAL REVIEW FORM
SECTION 01 - TRENCH EXCAVATION & BACKFILL FOR PIPELINES AND APPURTENANT STRUCTURES

	DATE	INITIALS		
Received by ENGINEER:			Submittal No.	
Received by OWNER:			Project No.	
			Contract No.	

TP	Specification	Description (Indicate Type, Model No., Manufacturer, etc.)	Action By Owner
1.02	Trench Safety Plan, including certified competent person		
1.03	Traffic Control Plan and Right of Way Permit		
1.07	Warning Tape		
1.07	Tracer Wire, Tracer Wire Access Points, and Tracer Wire Splice Kit		
1.07	Utility Line Marker		
1.07	Bollard		
1.07	Metal Marker Post and Stampable Cap		
1.08	Rock excavation methods (Solid and Loose)		
1.08	Blasting License, Credentials and Permits		
1.09	Dewatering procedures		
1.10	Extra Protection (Water Line or Sewer Line)		
1.11	Embedment and Bedding Material		
1.11	Stabilization Material		

1.11	Cement Slurry		
1.12	Soil Testing Lab		
1.12	Standard Proctor Test		
1.12	Density Testing Location Plan		
1.12	Density Test Results		
1.13	Gravel		
1.13	Pavement Patch Mix		
1.17	SWPPP		
1.18	Stake Out Plan, Survey Sub-Contractor		
1.20	Seed, Seeding Method, and Seeding Protection		

Approval:

	Signature	Date
CONTRACTOR:		
OWNER APPROVAL:		

TECHNICAL PROVISIONS

SECTION 02 - CAST-IN-PLACE CONCRETE

TP - 02.01 SCOPE:

Furnish all labor, materials, equipment, and incidentals as required, and perform all operations in connection with the placement of concrete in accordance with the applicable drawings and these specifications.

TP - 02.02 MATERIALS:

A. Cement: Portland cement shall conform to ASTM C150 Cement, Portland Type I, Type IA, Type II, Type IIA, Type III, or Type IIIA.

B. Concrete: Ready Mix Concrete shall conform to ASTM C94.

C. Aggregate: Aggregate shall be composed of clean, hard, durable, uncoated grains and crushed stone, free from detrimental amounts of clay, dust, soft or flaky particles, loam, shale, schist, slate, alkali, disintegrated stone, organic matter or other deleterious matter. The aggregates shall conform to ASTM C33.

D. Water: All water used for concrete shall be of potable quality.

E. Grading: Exposed horizontal surfaces shall slope approximately 1/8 inch per linear foot downward in all directions from the center.

TP - 02.03 CONCRETE REQUIREMENTS:

Property	**Unit**	**Minimum**	**Maximum**
Cement Factor	(sacks per cu. yd.)	6.0	---
Water-Cement Ratio	(gal. per sack)	---	6.0
Entrained Air	(percent)	4.0	6.0
Slump	(inches)	1.0	4.0
	Compressive Strength		
7 day	(psi)	1,800	
28 day	(psi)	3,000	

Concrete shall be uniformly plastic, cohesive and workable, i.e., can be placed without honeycomb and without voids in the surface. Workability shall be obtained without producing a separation of ingredients. Free water shall not appear on the surface. In general, a minimum amount of water required to produce a workable mixture shall be used.

TP - 02.04 WEATHER:

A. Freezing: No concrete work shall be done if the air temperature is below 40°F, except with the approval of the Owner or Owner's Representative. If approval is given to work, the water and aggregate shall be heated to at least 80°F before mixing. In all cases where the air temperature is predicted to be below 40°F, the concrete shall be insulated for at least 72-hours by insulating blankets, batt insulation with moisture proof covering, layers of dry porous material such as straw, hay, or multiple layers of impervious paper meeting ASTM C 171. No concrete shall be poured against frozen ground. The use of salt or other

compounds to prevent concrete from freezing shall not be permitted. Any work that has been injured by freezing shall be removed and replaced at the Contractor's expense.

B. Ambient Temperature Above 80 °F: The concrete temperature shall not exceed 95 °F, unless appropriate and approved admixtures are provided in the concrete mix. Concrete placement and finishing shall be completed as quickly as conditions permit. The concrete shall be protected against thermal shrinkage cracking due to rapid drops in concrete temperature greater than 40 °F during the first 24 hours. Acceptable protection materials to prevent these drops include: insulating blankets, batt insulation with moisture proof covering, layers of dry porous material such as straw, hay, or multiple layers of impervious paper meeting ASTM C 171. These materials shall not be applied until the concrete surface temperature has become steady or is beginning to decline.

TP - 02.05 CURING:

Fresh concrete shall be adequately protected from heavy rains and mechanical injury. All concrete shall be kept moist and protected from rapid drying or freezing for at least seven days. Concrete surfaces shall be kept moist by spraying with liquid membrane coating. Foundations and thrust blocks may be cured by covering with water saturated soil or backfill. All concrete shall be cured at least 72 hours prior to stripping forms or structural loading. Horizontal surfaces shall be covered with burlap as quickly as it can be safely applied, and then saturated by sprinkling. After 24-hours, burlap may be removed and water applied directly to the concrete surfaces. Suitable plastic covering may be substituted if no detrimental effects occur.

TP - 02.06 TRANSIT MIXED CONCRETE:

Ready-mixed concrete from a central batching plant and mixed in transit will be permitted with the Owner or Owner's Representative's approval. A time stamped plant batch certification sheet shall be provided by the concrete supplier listing the batch components for approval by the Owner or Owner's Representative.

TP - 02.07 FIELD TESTING:

Four test-cylinders shall be taken for each 50 cubic yards of concrete placed or portion thereof. If the Owner or Owner's Representative suspects, by visual inspection, slump, or other tests, that any other concrete appears substandard, additional test cylinders shall be required. The Contractor shall provide cylinder molds at the construction site and shall have the cylinders tested by an approved laboratory, with the Contractor bearing all costs. If any test cylinder falls below 3,000 psi at 28 days, this shall be sufficient cause to reject that portion of concrete. The Contractor shall remove and replace defective concrete with acceptable material at his own expense. The test cylinders shall comply with ASTM C31 for making and curing test specimens in the field.

The Contractor shall also perform one slump test and one air entrainment test for each ready-mixed concrete batch from a truck.

Field testing will not be required for non-structural concrete placement such as pre-cast manhole bases, concrete collars, yard hydrant concrete pads, fence post concrete anchors, monitoring well concrete pads, control panel concrete pads, cleanout collars, manhole collars, and drop manhole concrete encasements.

TP - 02.08 PLACING CONCRETE:

Before placing concrete, the Contractor shall provide 72-hour advance notice to permit proper inspection of forms and reinforcement by the Owner or Owner's Representative.

After completion of mixing, the concrete shall be rapidly conveyed to and deposited in the forms. Consolidate the concrete immediately after placing by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.

Concrete shall not be placed against surfaces of absorbent material that are dry and concrete shall not be placed against surfaces that have free water. The concrete shall be placed in such a manner as to prevent excessive crawling and segregation of the aggregate. No concrete shall be used that has partially set before final placing, nor shall retempering of the concrete be permitted. All concrete shall be placed in the forms no more than 90-minutes after mixing.

TP - 02.09 FORMS:

The Contractor shall provide forms that will produce correctly aligned concrete. The centering of the forms shall be true and rigid and thoroughly braced both horizontally and diagonally. Forms shall be sufficiently strong to carry the dead weight of the concrete as a liquid without deflection, and tight enough to prevent leakage of mortar. The inside of forms shall be coated with an approved oil or thoroughly wetted. The Owner or Owner's Representative shall be notified prior to removal of form work.

The final concrete structure shall be inspected for alignment, elevation, and concrete quality. Final concrete structure alignment and elevation shall be checked by use of land surveying instruments.

Should the concrete structure alignment, elevation, and/or quality test results be determined unsatisfactory by the Owner or Owner's Representative, the entire structure or parts of the structure will be rejected. All further alignment or elevation corrections, or any concrete removal and/or replacement, shall be at the Contractor's expense.

Honeycombed and void areas in the concrete shall be removed and patched to produce a sound concrete product by a method selected by the Contractor and approved by the Owner or Owner's Representative.

TP - 02.10 MORTAR:

Mortar shall be made of one part masonry cement, three parts sand, and only a sufficient amount of water to make a workable plastic mix. Retempered mortar shall not be used.

TP - 02.11 GROUT:

Surface aesthethic grout with non-structural or adhesive properties shall be made of one part Portland cement, two parts sand, and only a sufficient amount of water to make a workable plastic mix. Re-tempered grout shall not be used.

TP - 02.12 SLURRY:

Concrete slurry used for road crossings shall meet the requirements of the Federal Highway Administration FP-14 Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, Section 614 Lean Concrete Backfill.

TP - 02.13 MEASUREMENT AND PAYMENT:

Concrete and other work or materials required by this section shall not be measured and paid separately. Rather, they shall be included in the unit or lump sum bid prices of those items shown on the Bid Schedule that require the inclusion of such materials or work, even if not specifically mentioned within the measurement and payment sections of those particular pay items.

SUBMITTAL REVIEW FORM

SECTION 02 – CAST-IN-PLACE CONCRETE

	DATE	INITIALS	Submittal No.	
Received by ENGINEER:			Project No.	
Received by OWNER:			Contract No.	

TP	Specification	Description (Indicate Type, Model No. Manufacturer, etc.)	Action by Owner
2.04	Concrete Protection		
2.05	Concrete Compound		
2.06	Concrete Mix		
2.07	Concrete Testing Laboratory		
2.07	Strength, Slump, & Air Test Results		

	Signature	Date:
CONTRACTOR:		
OWNER APPROVAL:		

TECHNICAL PROVISIONS

SECTION 03 - REINFORCING STEEL

TP - 03.01 SCOPE:

Furnish all labor, materials, equipment and incidentals as required, and perform all operations in connection with the placement of reinforcing steel and wire fabric reinforcing, complete, in strict accordance with the applicable drawings and these specifications

TP - 03.02 MATERIAL:

Reinforcing bars shall meet the requirements of the Standard Specifications for Billet-Steel Bar (intermediate grade) for Concrete Reinforcement, ASTM A615. Welded wire mesh shall meet the requirements of the Standard Specifications for Welded Steel Wire Fabric for Concrete Reinforcement, ASTM A185. The bars and wire mesh shall be placed in accordance with the approved shop drawings. Any excess rust or scale shall be removed by wire brushing prior to concrete placement. The use of cold twisted bars will not be permitted. Wire fabric shall be used only when specified and shall be the type shown on the drawings and approved by the Owner or Owner's Representative.

Tie wire size is shown in the plans and shall conform to ASTM A1064.

TP - 03.03 METHOD OF CONSTRUCTION:

All reinforcement shall be free from dirt, oil, paint, grease, mill scale and loose or thick rust. When bending is required, it shall be accurately done without the use of heat, and bars having cracks or splits at the bends shall be rejected. All reinforcement shall be placed in the exact position shown on the drawings, and shall be securely held in position by wiring to and blocking from the forms, and by wiring together at intersections, such that it will not be displaced during depositing and compacting of concrete. Precast concrete blocks, concrete masonry units, or metal chairs shall be used for supports where applicable. Rock supports will not be allowed.

Placing and fastening of reinforcement in each section of the work shall be approved by the Owner or Owner's Representative before any concrete is deposited in the section. All joints or splices shall be made by using approved clamps, welding or by lapping the ends of the bars a distance of at least 40 times their nominal diameters unless otherwise noted on the plans. Lap adjoining wire mesh by no less than one full mesh and lace securely with wire.

Cutting and bending, placement, welding, handling and storage, and installation of reinforcement shall be in accordance with applicable American Concrete Institution (ACI), American National Standards Institute (ANSI), and Concrete Reinforcing Steel Institute (CRSI) standards.

TP - 03.04 MEASUREMENT AND PAYMENT:

Reinforcing steel shall not be measured and paid separately. Rather they shall be included in the unit or lump sum bid prices of those items shown on the Bid Schedule that require the inclusion of reinforcing steel, even if not specifically mentioned within the measurement and payment sections of those particular pay items.

SUBMITTAL REVIEW FORM, SECTION 03 – REINFORCING STEEL

	Date	Initials		
			Submittal No.	
Received by ENGINEER:			Project No.	
Received by OWNER:			Contract No.	

TP	Specification	Description (Indicate Type, Model No., Manufacturer, etc.)	Action By Owner
3.02	ASTM chemical & physical test certificates		

	Signature	Date
CONTRACTOR:		
OWNER APPROVAL:		

TECHNICAL PROVISIONS

SECTION 06 - GRAVITY SANITARY SEWERS

TP - 06.01 SCOPE:

The work covered by this section consists of furnishing all plant, labor, equipment, materials and incidentals, in connection with the construction of gravity sewer mains, manholes and appurtenances, in accordance with the plans and specifications.

TP - 06.02 GENERAL:

All facilities shall be constructed in the locations to the grades and of the sizes shown on the plans. Locating existing utilities shall be the responsibility of the Contractor in coordination with a representative from the operating utility. Excavation, trenching, backfilling, compaction and any needed dewatering shall be completed in accordance with Section 01 of the Technical Provisions, unless specifically altered under other requirements of this specification section.

Any section of sewer that is found defective in material, alignment, grade or joint shall be corrected so as to meet these plans and specifications. If the work does not meet the specified requirements of this section, the Contractor shall remove and replace at the Contractor's expense.

TP - 06.03 MATERIALS:

Materials shall be inspected to verify that they meet these specifications and match the approved submittals. Materials not meeting these requirements shall not be permitted to be installed. Install all materials and equipment in strict accordance with the manufacturer's recommendations, applicable codes and regulations, and these specifications.

The unloading, handling, and storage of the pipe and materials shall be conducted in a safe manner. Inspect all materials prior to installation to ensure that they are in new condition. Inspect pipe and fittings for defects. Plastic pipe with scratches, gouges, or grooves shall be rejected. Plastic pipes with discoloration shall be rejected. Remove all materials from site that are discolored, defective, damaged, used, unsound, or that otherwise do not meet the specifications.

A. Pipe, Joints and Fittings:

1. PVC Gravity Sewer Pipe: Sewer pipe shall be PVC and shall conform to all requirements of product standard ASTM D3034 for pipe diameters up to 15 inches and ASTM F679 for 18-inch to 48-inch diameter sewer mains.

    a) Sewer pipe shall meet the pipe compound requirements of ASTM D1784 and shall be made with PVC 1120 resin, Type I, Grade I. Pipe stiffness shall meet ASTM D2412.

    b) Pipe shall be nominal size, SDR-35.

    c) Joints shall be furnished with one end belled. The joint shall be integral bell and spigot with a Rieber rubber gasket. The integral bell shall meet ASTM D3212. The gaskets shall be as recommended by the pipe manufacturer and shall meet ASTM F477. Lubricants used for the joint installation shall meet the requirements of the pipe manufacturer.

    d) Each length of pipe shall be clearly marked with the following: Manufacturer, Nominal Pipe Size, PVC Cell Classification, Type PSM PVC Sewer Pipe, ASTM Designation and Pipe Class.

2. Ductile Iron Pipe: All ductile iron pipe shall be in accordance with AWWA C151 and shall be in 18 to 20 foot lengths with single rubber gasket (push-on) joints in accordance with AWWA C111.

a) All 8-inch pipe will be minimum Class 50 in accordance with AWWA C150.

b) Each length of pipe shall be clearly marked with the following: Manufacturer, Nominal Pipe Size, ASTM Designation and Pipe Class.

3. Fittings: Fittings for gravity sewer pipe, including but not limited to wyes, tees, saddles, bends, crosses, sleeves, plugs, caps, reducers, and glands, shall be the same material as the sewer main being connected. Saddles fastened to pipe with external bands are not acceptable on new pipe. All of the fittings listed above, other than wyes, shall require approval from the Owner and Owner's Representative and shall only be installed when shown on the plans.

a) PVC fittings shall conform to PVC gravity sewer pipe requirements provided in this section.

b) Ductile iron fittings shall conform to the requirements of AWWA C110 with the joints meeting the requirements of AWWA C111.

B. Manholes:

1. General: All concrete used for cast in place shall conform to Section 02 of these Technical Provisions. Concrete and reinforcement shall conform to ASTM C478. Reinforcing steel shall also conform to Section 03 of these Technical Provisions.

2. Lines and Grades: All manhole locations shall be as shown on the plans unless field changes are necessary and approved by the Owner or Owner's Representative.

a) Sewer line cut stakes shall be provided by the Contractor, at each manhole and at the midpoint between each manhole at a minimum.

b) A minimum of 2 offset stakes shall be provided for each cut stake. Further information on staking is found in Section 01 of these Technical Provisions.

3. Manhole Frames and Covers: Frames and covers shall be grey cast iron casting and shall conform to plans and details in all essentials of design.

a) The cover shall have a lifting pocket and shall not be vented.

b) Castings shall conform to ASTM A-48, Class 30 and shall maintain AASHTO HS-20 traffic loading requirements.

c) The bearing surfaces of the frames and covers shall be machined and the cover shall seat firmly onto the frame without rocking.

d) Combined weight of frame and cover shall be 280 lbs minimum.

e) Covers shall be the types and shall be imprinted as shown on the plans or standard details.

f) The manhole and covers shall be set as shown on the plans or as directed by the Owner.

g) Frames and covers shall be Neenah R-1595, Jensen Model A-1024 or approved equal. The manhole lid shall be cast with the word "SANITARY SEWER".

h) Manhole inserts shall be installed in each manhole. The inserts shall be manufactured from ultra-high density polyethylene meeting the requirements of ASTM D-1248, Class A, Category 5 with a minimum uniform thickness of 1/8". The lift strap shall be made of a woven polypropylene web. Manhole inserts shall manufactured by Parson Environmental, Sealing Systems, Inc., or approved equal.

4. Steps:

a) Steps shall be cast iron or 1/2-inch Grade 60, steel reinforced copolymer polypropylene plastic not less than 12 inches in width.

b) If the polypropylene steps are utilized, care shall be taken to install them exactly according to the manufacturer's recommendations. All steps must be installed by manufacturer.

c) Steps shall be centered over the manhole outlet (unless otherwise shown on the plans or requested by the Owner), spaced 16 inches apart and aligned to form a continuous ladder.

5. Adjustment/Grade Rings:

a) General:

i. Adjustment/grade rings shall be made of concrete, HDPE or approved equal and shall be H25 traffic rated.

ii. Ring sealant shall provide a watertight seal.

b) Concrete:

i. Concrete grade rings shall be reinforced.

ii. Concrete grade rings shall be provided by the same manufacturer of the manholes for which they are being installed.

c) HDPE:

i. Adjustment rings shall be available in a variety of thicknesses.

ii. Adjustment rings shall be corrosion proof, and shall be resistant to UV, heat and hydrogen sulfide gas.

iii. Adjustment rings shall be available in slope rings to allow for easy adjustments to any grade.

iv. Adjustment rings shall be composed of high density polyethylene and shall be Ladtech Systems or approved equal

6. Manhole Bases:

a) Precast bases with precast channels shall be pre-approved by the Owner or Owner's Representative. The Contractor shall submit detail drawings showing the size, placement, and spacing of reinforcing bars for both pre-cast and cast-in-place manhole bases.

b) Bottom manhole sections shall have integral precast base or floor slabs.

c) Bases shall be 8 inches thick and bedded on 8 inches of compacted gravel meeting the requirements of TP 01.

d) Cast-in-place bases may be accepted on a site specific basis and as approved by the Owner or Owner's Representative.

e) Cast-in-place base slabs shall be constructed of reinforced Class A concrete formed, poured and vibrated as a monolithic pour onto an 8" gravel base.

f) Concrete for cast-in-place manhole bases shall be batched from a concrete batch plant and shall meet or exceed the compressive strength of the barrel and cone sections. On-site, field mixed concrete shall not be allowed. Cast-in-place manhole base bench and channel shall receive a smooth trowel finish.

7. Standard Manholes:

a) Standard manholes are those which have a depth, measured from the invert of the outlet pipe to the top of the cover, greater than 6 feet.

b) Standard manholes shall be constructed with a 4-foot inside diameter and 5-inch thick precast concrete sections and shall be constructed as shown on the detail drawing.

c) Cone sections shall be eccentric, 5-inch thick, precast concrete.

d) The base slab for standard manholes shall be 8- inches thick for manholes up to 13 feet deep and 12-inches thick for manholes between 13 feet and 20 feet deep. For standard manholes deeper than 20 feet deep, structural calculations are required to determine the base thickness.

8. Shallow Manholes:

a) Shallow manholes shall have a depth of 6 feet or less.

b) They shall be constructed with a 4-foot inside diameter and a 5-inch thick precast concrete section.

c) Shallow manholes shall have an 8-inch thick reinforced concrete flat top cover and base slab. They shall be constructed as shown on the detail drawings.

9. Drop Manholes:

a) Manholes shall have drop piping provided for sewer entrances at an elevation of 24 inches or more above the manhole invert.

b) Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert shall be filleted to prevent solids deposition.

c) Drop manholes should be constructed with an outside drop connection in accordance with the details.

d) As shown in the detail, the entire outside drop connection piping on the exterior of the manhole shall be encased in ¾" crushed rock.

10. Diversion Manholes:

a) Diversion manholes shall have a depth of 6 feet or less and shall be constructed with a 4-foot inside diameter and a 5-inch thick precast concrete section.

b) They shall have 8-inch thick reinforced concrete cover and base slabs.

c) Diversion manholes shall be constructed as shown on the detail drawings.

d) Each diversion manhole shall be provided with a fiberglass gate frame and gate. The fiberglass gate frame shall have a thickness of 3/16-inch. The gate frame shall have a channel that is ¼-inch. The fiberglass gate shall be ¼-inch thick. The gate frame and gate shall be constructed as shown on the detail drawings.

11. Manhole Coating: Coating shall only be applied at the manhole locations shown on the plans.

a) The inner surface of the new manhole sections and rings shall be lined with solvent free, 100% solids epoxy product as manufactured by Raven Lining Systems, Oklahoma, or approved equal.

b) The coating shall include a prime coat – 8 mils of AquataPoxy A-10 and a top coat of 100-125 mils of Raven 405. Total Dry Film thickness of epoxy coating system shall be a minimum of 105 mils.

c) Surface preparation, application methods and safety measures shall follow the manufacturer's recommendation.

12. Joints: Joints between precast manhole sections elements shall be sealed with a flexible gasket equal to Ram-Nek, ConSeal, or equal resin sealant, and grouted.

13. Waterstops:

a) All pipe penetrations through the manhole shall be equipped with waterstop devices conforming to ASTM C923.

b) Waterstop devices shall be equal to Kor-N-Seal 106-406 Series manufactured by Trelleborg, PSX: Positive Seal manufactured by Press-Seal Gasket Corporation, Z-Lok Connector manufactured by A-Lok Products, or Newby Waterstops by Newby Rubber Inc.

c) All penetrations shall then be grouted to provide a watertight penetration.

C. Sewer Main Cleanouts:

1. The cleanouts shall be constructed of the same pipe material and size as the sewer main, with a reinforced concrete collar, and cast iron frame and cover.

2. The frame and cover to be furnished on cleanouts shall be a Neenah R 1791-A, Star Pipe Product VB-0029 or approved equal. Lids shall be furnished standard with concealed, watertight pickhole, sealed with gasket, and fastened with stainless steel bolts.

3. All concrete for sewer main cleanouts shall have a 28 day compressive strength of 3,000 psi and be in accordance with Section 02 of these Technical Provisions.

D. Warning Tape: Warning tape shall be installed in accordance with Section 01 of the Technical Provisions.

E. Markers and Bollards: Marker and bollards shall be installed in accordance with Section 01 of these Technical Provisions.

TP - 06.04 TRENCH EXCAVATION AND BACKFILL:

Trenching and backfilling operations shall be performed as specified in Section 01 of these Technical Provisions.

TP - 06.05 WATER AND SEWER LINE SEPARATION REQUIREMENTS:

Water and sewer pipeline separation shall be maintained in accordance with Section 01 of these Technical Provisions.

TP - 06.06 INSTALLATION OF GRAVITY SEWER LINES:

Pipe joints and fitting installation shall be in accordance with the manufacturer's recommendation.

A. Trenches:

1. Excavation, trenching and backfill shall meet the requirements of Section 01 of these Technical Provisions.

2. The bottom of the trench shall be shaped to give uniform support to the pipe.

3. Trenches shall be kept free from water and the pipe shall not be laid when conditions of the trench or weather are unsuitable for such work.

4. At all times when work is not in progress, all open ends of pipe and fittings shall be securely closed so that no trench water, earth or other substances will enter the pipe.

5. If the maximum width of the trench at the top of the pipe specified in Section 01 of these Technical Provisions is exceeded for any reason other than at the direction of the Owner or Owner's Representative, the Contractor shall install such concrete cradling, encasement, gravel base or other bedding as may be required to satisfactorily support the added load of the backfill.

B. Pipe Laying:

1. Installation of pipe and fittings, including joint lubrication and assembly shall be in accordance with the manufacturer's recommendations.

2. Pipe laying shall proceed upgrade (from lowest elevation to highest elevation), with the spigot end pointing in the direction of the flow (bell pointing upstream).

3. Each pipe shall be laid true to line and grade as shown on the plans, and in such a manner as to form a close concentric joint with the adjoining pipe. Ensure that vertical alignment does not deviate from 0.05% or 0.1 feet, whichever is less, from the design grade show in the plans.

4. The grade between manholes and cleanouts shall be uniform.

5. As the work progresses, the interior of the sewer pipe shall be cleared of all dirt and extraneous materials of every description.

6. Warning tape shall be installed along the sewer main between the manholes and cleanouts.

7. All sewer main line stub-outs shall be plugged. A PVC cap shall be solvent welded to the main line stub out. A piece of No. 3 rebar, 1-foot in length shall be installed to mark the main line stub out. Bury the rebar 6 inches below ground surface. A PE marker painted green shall also be installed at this same location.

TP - 06.07 INSTALLATION OF MANHOLES:

A. General:

1. Manholes shall be installed at the locations and elevations shown on the site plans.

2. Bases, walls and cones shall conform to the plans and details.

3. Manholes shall be installed so that the walls are vertically plumb.

B. Manhole Channel:

1. The manhole shall be positioned such that the pipes intersect in the center of the manhole circle. The invert channels will be formed directly in the concrete.

2. Manhole invert channels shall be smooth and semi-circular in shape, conforming to the inside of the adjacent sewer pipe section.

3. The invert shall be finished smoothly with a semi-circular cross section. Flat-bottomed inverts shall not be acceptable. Inverts with humps, low spots, or roughness of finish which will catch solid materials will not be acceptable. Inverts shall not be brush finished.

4. A minimum invert elevation drop of one-tenth of a foot (0.1 feet) from the entrance to the outlet shall be provided in all manholes where there is a change in direction or change in grade.

5. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. S-curves will not be acceptable.

6. Changes in sizes and grade of the channels shall be made gradually and evenly.

7. For those manholes where the sewer pipe does not change grade or direction the invert may be constructed by laying a full section of sewer pipe through the manhole. The top half of the pipe shall be removed after the concrete sets. Concrete bench shall be to the spring-line of the pipe.

C. Manhole Benches:

1. The floor of the manhole outside the channels (benches) shall be smooth and shall be sloped no less than ½ inch per foot (4 percent) and a max of 2 inches per foot (16 percent).

2. No lateral sewer, service connection, or drop manhole pipe shall discharge onto the surface of the bench.

D. Manhole Sections:

1. Joints between precast manhole sections shall be sealed with "Ram Nek" bituminous rope type sealer or equal.
2. Install joint sealants around entire circumference of each manhole joint.
3. Place sealant on the lower horizontal surface of the joint. Ensure that a watertight seal is provided at the joint.
4. The sections shall then be grouted to a smooth finish on the interior and exterior of the manhole. Grout for jointing shall be as specified in Section 02 of these Technical Provisions. Grouting joint of the manhole exterior shall be completed after joint sealant seals the joint completely. Manhole testing for water tightness may be completed prior to grouting the manhole exterior.
5. Contractor shall obtain approval from the Owner prior to using tape as a substitute for grout. Tape shall be Viscotaq or equal.
6. Manhole sections and adjustment rings, if required, shall be grouted in place when the manhole is constructed. The grout shall be spread evenly over the entire mating surface.
7. The jointing and sealing materials shall be approved by the Owner or Owner's Representative prior to installation.
8. For shallow manholes, install top slab section with the opening over the outlet of the manhole.

E. Adjustment/Grade Rings:

1. The maximum number of adjustment/grade rings shall be (3) or as indicated on the plans. Manholes in traffic areas shall have at least one adjustment ring.
2. All adjustment ring joints shall be sealed and watertight. For HDPE adjustment rings, install joint sealants in all joints between adjustment rings. For concrete adjustment rings, grout in place on the inside and outside when the manhole is constructed.
3. The total thickness of adjustment rings shall not exceed 18 inches. Maximum spacing between the top of the manhole cover and the first step shall be 28 inches. This spacing can be reduced by having the manhole manufacturer add another step closer to the top of the cone, if shown in the drawings. Steps shall not be added in the field by the Contractor.
4. No cracked or damaged adjustment rings shall be installed.

F. Frame, Cover and Collar:

1. The manhole frames and covers shall be set to the elevations shown on the plans.
2. In roadways, the top of the frame and cover shall be even with the road wearing surface.
3. A 42-inch diameter reinforced concrete collar shall be installed on the frame, cover, and the adjustment rings.
4. The tops of all manholes shall have a concrete collar of the dimensions shown in the details. The collar shall cover the thickness of the ring and the top joint with the first grade ring.
5. In unimproved areas, the collar shall extend from the top of the cover to the bottom of the lowest adjustment ring. The surface of the concrete collar shall have a smooth finish.

G. Drop Manholes:

1. Type and location of drop manholes are shown on the plans and shall be constructed in accordance with the details.

2. Install an outside manhole drop where the invert of the inlet pipe is more than 24-inches higher than the invert of the outlet pipe.

3. Use the same material that is used for the sewer main pipe to construct the drop piping.

4. The exterior piping of the drop manhole shall be supported/encased by ¾" crushed rock at 100% relative compaction. The encasement material shall be carefully placed to avoid damage to the piping or fittings and to the integrity of the joints.

H. Pipe to Manhole Connections:

1. Install sanitary sewer main pipe to manhole using approved gasket per manufacturer's recommendations.

2. All connections between sewer pipe and manhole walls shall be made using approved water stops and be sealed with non-shrinking grout in such a manner to make the manholes water tight.

3. Manholes shall not be acceptable if any evidence of infiltration into them is found. The Contractor shall take whatever actions are necessary, at his expense, to ensure that the manholes are completely watertight.

TP - 06.08 INSTALLATION OF SEWER MAIN CLEANOUTS:

Where indicated on the plans, a cleanout shall be furnished and installed by the Contractor in lieu of a manhole. The cleanout shall be constructed as shown on the detail drawings. Excavation, backfill and compaction shall meet the requirements of TP 01. When identified in the plans, the sewer main cleanout may be installed with a single long sweep 90 degree fitting in lieu of the two 45 degree fittings.

TP - 06.09 CONNECTION TO EXISTING MANHOLES:

Connection of newly constructed sewer mains to existing manholes shall be of either the drop or at-grade type as indicated in the plans and listed on the Bid Schedule. If connecting to an existing manhole, Contractor shall core drill the new penetration into the wall of the existing manhole and shall reshape the existing channel and bench wall to accommodate the new flow line. Reconstruction of manhole bases and inverts, all necessary piping, and associated work required to complete the connection shall comply with the provisions of this Technical Provision.

TP - 06.10 MANHOLE ABANDONMENT:

Manholes designated to be abandoned shall be removed a minimum of three (3) feet below the finished surface. Frame and cover castings shall be carefully removed and delivered to the Owner. Prior to backfilling, pipe connected to the manhole shall be plugged or sealed as approved by Owner or Owner's Representative. Removed portions of the manhole may be crushed and included as backfill to fill the remaining manhole. No crushed manhole debris shall be allowed in the final three (3) feet below finished grade. Backfilling and compaction shall be in accordance with TP-01 of the Technical Specifications and final backfill shall be brought up to surrounding grade.

TP - 06.11 SEWER MAIN AND MANHOLE TESTING:

A. Sewer Main Testing General:

1. General:

a) Sewer main testing shall be done after the trenches are backfilled and final grading is finished.

b) Contractor shall furnish all materials, labor and equipment to perform the required tests. All tests shall be performed in the presence of the Owner's Representative.

c) All sections of sewer not passing the tests shall be replaced in accordance with Owner's Representative approved methods. Repairs and retesting shall be performed at the Contractor's expense. Retests shall be performed until tests pass the requirements.

2. Sewer Main Flushing:

a) The Contractor shall flush all sewer lines before testing to remove sand, silt and other foreign material which might have entered the pipe during construction.

b) Water used for flushing shall be domestic quality or as approved by the Owner or Owner's Representative and shall be coordinated with the operating utility.

c) All equipment and water for the flushing shall be furnished by the Contractor.

d) The Contractor shall dispose of all water and foreign matter after flushing in an approved manner.

B. Sewer Main Alignment: Lamping shall be performed by the Contractor in the presence of the Owner or Owner's Representative using mirrors to observe the pipe reflection from the surface. The ground surface from where the lamping takes place shall be properly shored or benched for personnel safety. Any deviation from true line or grade may be cause for rejection of the line. Deviations exceeding 0.1 feet from the true line or grade which prevents water from draining by gravity from the sewer system, including manholes, shall be corrected such that the facilities meet these specifications and plans. For horizontal alignment, a deviation allowance of 0.1 feet inside the pipe may be accepted by the Owner or Owner's Representative.

C. Sewer Main Water Tightness: Tests for water tightness in the gravity sewer mains shall be made by the Contractor in a manner approved by and in the presence of the Owner or Owner's Representative. Testing for water tightness in gravity sewer mains may be accomplished by either of the following two methods:

1. Low Pressure Air Test: Testing shall conducted in accordance with ASTM F-1417. Testing gauge for the air test shall have a minimum division of 0.1 psi. No one shall enter a manhole when a line into it is pressurized.

a) Test Requirements & Setup:

i. Plug all pipe outlets with test plugs capable of holding under the test pressures. Install plugs and brace as necessary to ensure that the plugs will not blow out when the main is under pressure.

ii. Test each newly installed section of gravity sewer line between manholes.

iii. Slowly introduce air pressure to approximately 4.0 psig. Never exceed a pressure of 9.0 psig. Do not enter manhole once pipe is pressurized.

iv. Allow pressure to stabilize for at least five (5) minutes.

v. Adjust pressure to 3.5 psig or the increased test pressure as determined below if groundwater is present. Start the test.

b) Test Procedure

i. Determine the test duration for a sewer section with a single pipe size from the table below:

Low Pressure Air Test – Test Times	
Sewer Main Diameter (inches)	**Test Time (Minutes/100 Feet of Sewer)**
4	0.3
6	0.7
8	1.2
10	1.5

12	1.8
24	3.6

ii. Record the drop in pressure during the test period. If the air pressure has dropped more than 1.0 psig during the test period, the line is presumed to have failed. If the 1.0 psig air pressure drop has not occurred during the test period, the test shall be discontinued, and the line will be accepted.

iii. If the line fails, determine the source of the air leakage, make corrections and retest. The Contractor has the option to test the section in incremental stages until the leaks are isolated. After the leaks are repaired, retest the entire section between manholes.

iv. Individual service lines shall be tested by plugging the service line termination prior to connecting to the home or building, and plugging sewer cleanouts, and then testing concurrently with main section to which it is connected.

2. Exfiltration/Infiltration:

a) All equipment and water for these tests shall be furnished by the Contractor. This test will be made after the line has been completely backfilled.

b) Infiltration testing shall be completed under existing ground water conditions.

c) Exfiltration testing shall be conducted under an internal pipeline test pressure generated by a water level at least 4 feet above the highest elevation of the sewer main crown to be tested.

d) The test shall be run for a minimum of a four hour period.

e) The sewer and manhole connections shall not leak under either external or internal water pressure in excess of 0.158 gallons per hour per 100 feet of pipe per inch of diameter of pipe. A suitable meter or method of measuring the quantity of water used is necessary.

f) Leakage by either infiltration or exfiltration greater than specified above shall be corrected by the Contractor at his expense.

D. Deflection Test: The maximum allowable deflection (reduction in vertical inside diameter) for PVC pipe shall be five percent (5%). However, up to seven and one half percent (7½ %) may be allowed 30 days after final backfilling. Deflection testing is required in all cases between all manholes. All locations with excessive deflection shall be excavated and repaired by re-bedding or replacement of the pipe. Acceptable methods of deflection testing include use of properly sized go-no-go mandrels or deflectometer. Acceptable mandrel dimensions for SDR 35 PVC pipe are included in the following table. To be considered successful, the mandrel shall pass through the entire length of sewer main in one smooth pass without additional mechanical force. Deflection testing is not required for ductile iron sewer mains.

Sewer Main Diameter (inches)	Madrel O.D. (inches)
6	5.31
8	7.09
10	8.84
12	10.51
15	12.86

E. Video Inspection: If required by the Contract and included in the Bid Schedule, the Contractor shall provide the Owner with a post construction video inspection record of the new sewer pipeline. The video shall clearly show all joints, seals, connecting pipes, and manholes. Video inspection shall be paid by the Owner as a pay item separate from pipe installation, flushing, and other testing requirements. The video

shall be provided on any of the following media (DVD, USB Flashdrive, SD Card or MicroSD Card). The video format shall be viewable on Windows Media Player.

F. Manhole Testing:

1. General:

a) Tests for water tightness of manhole shall be made by the Contractor in a manner approved by and in the presence of the Owner or Owner's Representative.

b) Existing manholes to which a new main is connected do not need to be tested.

c) All newly-constructed manholes shall be tested for watertightness. New manholes shall be tested immediately after assembly and prior to backfilling.

d) If the manhole fails the initial test, necessary repairs shall be made and the manhole shall be retested.

e) All lift holes shall be plugged with an approved non-shrink grout.

f) Pipes entering the manhole shall be plugged, taking care to securely brace the plug.

g) Care must be taken not to break any seals during backfill operations. If the Owner suspects seals broken during backfilling, he shall require a second test after backfilling.

h) The Contractor shall be responsible for cost of the retest and repairs if second test fails.

i) One of the following methods shall be used; either vacuum or hydrostatic testing.

2. Vacuum Testing:

a) Vacuum testing should be conducted in accordance with ASTM C-1244 (Vacuum Test for Concrete Manholes), except as modified below.

b) The vacuum test head shall be installed per the manufacturer's recommendations.

c) A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to 9 inches.

d) The manhole shall pass if the time is greater than 60 seconds for 48-inch diameter, 75 seconds for 60-inch, and 90 seconds for 72-inch diameter manholes.

3. Hydrostatic Testing:

a) Hydrostatic testing shall be conducted in accordance with ASTM C-969 except as modified below.

b) The mains into and out of the manhole shall be plugged with a suitable device such as a tethered pneumatic plug.

c) The manhole shall be filled with water to the ring.

d) After a period of at least one hour to allow for concrete absorption and to allow the water level to stabilize, the manhole shall be refilled and the water level shall be checked.

e) The hydrostatic test shall then begin and shall be administered for a period of 4 hours.

f) If the water level is found to drop more than 1 inch per foot of depth of the manhole over this 1 hour duration, then the leakage shall be considered excessive and the Contractor shall be required to make all necessary repairs and retest the manhole.

g) The exterior of the manhole shall be inspected during this period for visible evidence of leakage.

h) Visible moisture, sweating, or beads of water on the exterior of the manhole shall not be

considered leakage, but any water running across the concrete surface will be considered leakage and shall be repaired to the satisfaction of the Owner's Representative regardless of the volume of water lost during the test.

TP - 06.12 CLEANUP:

Upon completion of the work, the entire site shall be cleared of all debris, and the ground surface shall be finished to smooth and uniform slopes. All fences, clotheslines, gravel driveways or other obstructions removed during construction shall be left in a condition at least equal to their condition prior to construction. Cleanup shall be considered an incidental item and no additional payment shall be made for it, but rather its costs shall be merged with the applicable pay item irregardless of whether cleanup is specifically included in the measurement and payment section. Seeding shall be completed in accordance with Section 01 of these Technical Provisions.

TP - 06.13 RECORD DRAWINGS:

The Contractor shall be responsible for keeping accurate records of all installed items under this section of the specifications, and indicating revisions of the Owner furnished construction drawings in sufficient detail to be accepted by the Owner or Owner's Representative for record drawings. Sufficient detail under this contract means that the Contractor shall take accurate measurements and record them on the drawings to provide the minimum information of at least two swing ties and distances to permanent objects for all manholes and cleanouts; the beginning and end of any stabilization material placed; the beginning, end, and depth of rock encountered; the beginning, end, and depth of any encasement installed; and the location and depth of any other utilities encountered. Also to be noted on the plans is the final elevation of all manhole lids, inverts, and the ground immediately adjacent to the manhole lid and the distance and angles between the manholes. Further information on record drawings is contained in TP-01 and the Supplementary Conditions.

The recording of the as-built information is considered an integral part of the progress of this construction and shall be reviewed with the Owner or Owner's Representative in determining progress under this contract.

TP - 06.14 MEASUREMENT AND PAYMENT:

A. Gravity Sewer Main: Gravity sewer main shall be measured in linear feet along the centerline of the pipe, center to center of the manhole without deduction for fittings or diameter of manholes, for each of the various sizes and types of pipe installed. Payment for sewer pipe shall be at the contract unit price for the various sizes and types of sewer main installed as shown on the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, materials, testing (alignment, water tightness and deflection), and incidentals required for a complete installation, including but not limited to excavation, bedding, stabilization material, laying and jointing pipe, exfiltration/infiltration testing or air testing, supplying water, plugging, measuring, flushing, backfilling, record drawings, and final cleanup.

B. Standard Manholes: Standard manholes shall have a depth greater than 6 feet when measured from the invert of the outlet pipe to the top of the cover, and shall be measured each. Payment shall be at the contract unit price for the various depths of manholes installed as shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, testing and incidentals required for a complete installation, including but not limited to excavation, concrete, frame and cover, steps, adjustment of height, invert forming, connection to sewer lines, backfilling, record drawings, and final cleanup.

C. Shallow Manholes: Shallow manholes shall have a depth of 6 feet or less when measured from the invert of the outlet pipe to the top of the cover, and shall be measured each. Payment shall be at the contract unit price shown on the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, materials, testing and incidentals required for a complete installation, including but not limited to excavation, concrete, frame and cover, steps, adjustment of height, invert forming, connection to sewer lines, backfilling, record drawings, and final cleanup.

D. Drop Manholes: Drop manholes shall be measured each. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, testing and incidentals required for a complete installation, including but not limited to excavation, crushed rock, frame and cover, steps, adjustment of height, invert forming, drop pipe, connection to manhole, connection to sewer line, backfilling, record drawings, and final cleanup.

E. Diversion Manholes: Diversion manholes shall be measured each. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, testing and incidentals required for a complete installation, including but not limited to excavation, concrete, frame and cover, gate frame and gates, steps, adjustment of height, invert forming, connection to sewer line, backfilling, record drawings, and final cleanup.

F. Sewer Main Cleanouts: Sewer main cleanouts installed at the terminal end of a sewer main shall be measured each. Payment shall be at the contract unit price on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete installation, including but not limited to excavation, concrete, frame and cover, fittings, backfilling, record drawings, and final cleanup.

G. Connection to Existing Manhole: Connections to existing manholes shall be measured each. Payment shall be at the contract unit price shown in the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete installation, including but not limited to excavation, cutting into the existing manhole, grouting, fittings, removing the existing invert, pouring and forming a new invert, backfilling, record drawings, and final cleanup.

H. Manhole Abandonment: Abandonments of manholes shall be measured each. Payment shall be at the contract unit price shown in the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete abandonment, including the removal of the top section, plugging connecting sewer pipes, backfilling the manhole, and compacting the soil to prevent subsidence and to bring it to the same level as the surrounding grade, record drawings, and final cleanup.

I. Sewer Video Inspection: Post construction sewer video inspection shall be measured in linear feet along the centerline of the televised pipe. Payment for sewer video inspection shall be at the contract unit price shown in the Bid Schedule. This price shall be full compensation for furnishing all labor, equipment, materials, video records, and incidentals required for a complete inspection. Recordings shall be provided on the specified media and in the specified format.

SUBMITTAL REVIEW FORM
SECTION 06 - SANITARY SEWER

DATE INITIALS Submittal No. _____

Received by ENGINEER: _____ _____ Project No. _____

Received by OWNER: Contract No.

TP	Specification	Description (Indicate Type, Model No., Manufacturer, etc.)	Action By Owner
06.03.A.1	PVC Sewer Pipe		
06.03.A.2	Ductile Iron Pipe		
06.03.A.3	Fittings		
06.03.B	Manholes (Base, Riser, Cone)		
06.03.B.3 & B.5	Manhole Frame, Cover, Adjustment/Grade Rings		
06.03.B.4	Manhole Steps		
06.03.B.12	Waterstops		
06.03.B.11	Manhole Jointing & Sealing Materials		
06.03.C	Sewer Main Cleanouts		
06.11	Sewer Main Testing (Alignment, Deflection, Watertightness, Video)		
06.11	Manhole Testing (Vacuum/Hydrostatic)		

	Signature	Date
CONTRACTOR:		
OWNER		

TECHNICAL PROVISIONS

SECTION 08 – MANHOLE REHABILITATION

TP - 08.01 SCOPE:

A. The work covered by this section consists of furnishing all plant, labor, equipment and materials in connection with the rehabilitation of existing manholes. Rehabilitation shall include the following activities and as indicated on the plans and Bid Schedule:

1. Clean manholes and benches as needed to perform rehabilitation activities. This includes removing and disposing of corroded/deteriorated materials and debris. Heavy cleaning is not anticipated or required.
2. Weld repair of existing polyvinyl chloride (PVC) sheet liner with locking extensions (i.e. T-Lock) on sections of manhole barrel, adjustment, shaft, and/or bench including the welding of PVC joints, around pipe penetrations, patching of holes, or steps.
3. Where existing T-Lock liner on benches or adjustments are slated to be removed per the Bid Schedule, the Contractor shall remove the section of sheet liner, remove corroded/deteriorated materials and debris, clean, resurface and otherwise prepare section of manhole for the coating system.
4. For raw surfaces with no prior PVC sheet liner system, resurface and otherwise prepare manhole area for approved a corrosion protective coating system.
5. Apply one of the approved coating systems, as specified herein.
6. Test the prepared surface and finished surface coating, as required herein.
7. Manhole bench repair, rebuild or adjustment.
8. Manhole frame and cover replacement, adjustment or rehabilitation.
9. Other related activities, as noted herein.

TP - 08.02 QUALITY INSURANCE:

A. Manhole rehabilitation shall be performed using a qualified manufacturer's product. The installer must be approved by the manufacturer. Both the installer and the manufacturer shall show evidence of at least 5 years of successful experience in the specific type of manhole rehabilitation.

B. The coating applicator shall submit a successful "Performance History" for applying coatings in manholes and/or lift station wet wells during the previous three (3) years.

C. The coating applicator shall also submit a certification letter from the manufacturer of the product (i.e., one of the approved products listed in this specification) that the applicator intends to install in the manholes. The certification letter shall state that the coating applicator has been trained and is certified and approved by the manufacturer to apply the manufacturer's coating in sewer manholes.

D. Storage, mixing, handling, and use of all materials and compounds shall be in strict accordance with manufacturer's instructions and specifications.

E. All products to be used in the rehabilitation systems shall be supplied by a single manufacturer to insure material compatibility.

TP - 08.03 REFERENCED STANDARDS:

A. This Section contains references to the governing standards and documents listed below. The current

version shall apply unless otherwise noted. In case of conflict between the requirements of this section and those of the listed documents, the more stringent of the requirements shall prevail.

1. National Association of Sewer Service Companies (NASSCO) Specification Guidelines for Sewer Collection System Maintenance and Rehabilitation
2. American Concrete Institute, (ACI): ACI 301 – Specifications for Structural Concrete
3. Current Edition American Society for Testing and Materials, (ASTM)
   a. ASTM D7234 – Pull-off Strength of Coatings Using a Portable Adhesion Tester
   b. ASTM F 2414 – Standard Practice for Sealing Sewer Manholes Using Chemical Grouting
   c. ASTM D543 – Resistance of Plastics to Chemical Reagents
   d. ASTM D638 –Tensile Properties of Plastics
   e. ASTM D695 – Compressive Properties of Rigid Plastics
   f. ASTM D790 – Flexural Properties of Unreinforced and Reinforced Plastics.
   g. ASTM D2240 – Standard Test Method for Rubber Property – Durometer Hardness
4. International Concrete Repair Institute, (ICRI)
   a. Guideline No. 310.1R – Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion
   b. Guideline No. 310.2 – Selecting and Specifying Concrete Surface Preparation for Sealer, Linings, and Polymer Overlays
5. NACE International, (NACE)
   a. NACE SP0188 – Standard Practice for Discontinuity (Holiday) Testing of Protective Linings
   b. NACE No. 6/SSPC-SP13 – Surface Preparation of Concrete
6. Occupational Safety and Health Administration, (OSHA) – 29 CFR 1910/1926
   a. SSPC: The Society for Protective Coatings, (SSPC)
   b. SSPC-Guide 12 – Guide for Illumination of Industrial Painting Projects

B. Unless otherwise specified, references to documents shall mean the documents in effect at the time of receipt of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents, the last version of the document before it was discontinued.

TP - 08.04 SUBMITTALS

The contractor shall submit the following for review and approval by the Engineer and Owner at least four weeks before commencement of fieldwork unless stated otherwise:

A. Manufacturer's product data for materials used to cleaning, surface preparation, coating systems, bench rebuild, and PVC repair materials.

B. Contractor Certifications and Material Certifications as requested.

C. Written work plan and project schedule describing in detail all phases of the rehabilitation operations. Include confined space entry and flow diversion and/or bypass plans as necessary to perform the specified work.

D. Progress Photographs of sufficient quality and clarity so that interior condition can be readily determined by the Engineer. The photos shall be annotated with a date and manhole number. Photos shall be submitted for the following circumstances:

   1. After cleaning and preparation, of each manhole's interior walls for review by the Engineer. The Engineer may inspect the manhole before giving approval to begin lining.

   2. After coating installation of each manhole area to show final condition of rehabilitated manhole area.

TP - 08.05 APPROVED CORROSION PROTECTIVE COATING SYSTEMS FOR MANHOLES:

A. The approved coating systems for corrosion protection of rehabilitated manholes shall be as follows:

1. Sauereisen Sewergard Lining No. 210 as manufactured by Sauereisen Cements, Pittsburgh, PA.
2. Sewer Shield 150 Epoxy Lining as manufactured by Environmental Coatings, Mesa, AZ.
3. Raven 405 Epoxy Lining as manufactured by Raven Lining Systems, Tulsa, Oklahoma.
4. Tnemec/Epoxytec CPP Sprayliner
5. Vortex/Quaplex Structure Guard

B. An underlayment process and material recommendation by the manufacturer shall be used to repair and reprofile corroded areas of manhole surfaces. Manholes surfaces shall be cleaned and prepared in accordance with the manufacturer recommendations and Section 08.06 of these specifications prior to application of any underlayment and coating.

C. Sprayable or trowelable formulations of the products listed above are acceptable. If "sprayable", the product shall be applied by an airless sprayer or spincaster. In addition, if applied by airless sprayer or spincaster, the final surface coating layer shall be trowel finished before setting. The Contractor shall not re-use or apply rebounded, spilled or oversprayed material.

TP - 08.06 COATING SYSTEM EXECUTION:

A. General: Areas not protected by existing or weld repaired PVC sheet liner, including manhole benches and raw concrete adjustment rings, shall receive an approved coating system where indicated on the drawings and in accordance with the manufacturer's specifications.

Measurement for this work shall be made per each manhole, based on the application of coating to the bench/invert or up to 13 vertical inches of the adjustment rings per manhole.

B. Manhole Cleaning and Debris Removal

1. The Contractor shall clean and remove debris as needed to prepare manholes for rehabilitation activities. Bypassing is not required during cleaning activities.
2. Cleaning shall remove all sediment, rocks, debris, roots, grease, and other loose materials or obstructions from the manholes. Any sediment larger than U.S. #8 sieve shall not be deposited downstream. If sedimentation occurs, the Contractor shall remove it at no cost to the Owner.
3. The Contractor shall properly dispose of all debris resulting from the manhole cleaning and preparation activities at no additional cost to the Owner. Said disposal shall be in accordance with all local, state and federal laws and regulations and shall not involve disposal within the sewer system.

C. Surface Preparation Activities:

1. The Contractor shall follow the approved coating system manufacturer's recommendations for specific surface preparation methods resulting in a uniform, damage-free surface. Surface preparation must ensure proper adhesion spark, creating a uniform, sound clean neutralized surface with sufficient profile (minimum CSP-4 per ICRI Technical Guideline No. 03732) to bond with the coating system.
2. The Contractor may use surface preparation methods or combination of methods such as high pressure water cleaning, high pressure water jetting, abrasive blasting, shot blasting, grinding, scarifying, detergent water cleaning, hot water blasting and others as described in NACE No. 6/SSPC SP-13.
3. The Contractor shall stop any visible infiltration by using a material which is compatible with the repair products and is suitable for top-coating with the coating system. The manufacturer shall verify the product compatibility.
4. Before applying the coating, surfaces must be structurally sound, dry or damp, free of grease, oils, coatings, dust, curing compounds and other contaminants. Surface laitance must be removed. Excess water shall be removed using compressed air with oil-trapping filters, and heaters shall be used as

necessary.

5. For existing manholes with an irreparable PVC sheet liner in place, the Contractor shall remove the liner, including any underlayment, before performing other cleaning activities. Removal shall comply with Section 08.08, PVC Sheet Liner Removal.
6. Contractor shall remove steps from the manhole where indicated in the plans. If the manhole steps are "strongly embedded" in the concrete (as determined per Section 08.08), the Contractor may cut them off flush with the surface of the surrounding manhole and leave the embedded portion in place in the concrete. When the manhole is fully prepared and ready for the coating system, any portion of the steps that remain embedded in the concrete shall not protrude above the surface of the concrete.
7. The Contractor shall take special care during manhole cleaning and preparation activities to avoid causing damage to existing materials. Particular attention shall be given to protecting portions of the manhole, including appurtenances and attachments, that are not intended to be cleaned or prepared. The Contractor shall use appropriate methods and precautions to ensure these areas are not adversely affected.
8. Contractor shall reference Section 08.11 for testing requirements following surface preparation. The Construction Representative is not obligated to use all of the tests outlined in Section 08.11.A, Visual Inspection of Manholes Prepped for Coating, but may do so at the Owners' sole discretion.
9. Surface cleaning and preparation shall be followed promptly by application of the coating system to prevent contamination or deterioration of the prepared surface. In no case shall the time between cleaning and coating exceed the manufacturer's maximum allowable time interval without re-cleaning or rinsing of the surface.

D. Underlayment Material Application:

1. Prior to any surface coating, the Contractor shall fill all voids (including any "ruts" left by the removal of PVC sheet liner tees) and restore the manhole surface to an even and uniform surface profile using underlayment materials compatible with the approved coating system.
2. The underlayment shall be installed over a clean surface prepared in accordance with the requirements herein. The Contractor shall employ whatever means necessary to ensure proper curing of the underlayment layer and strong adherence to the prepared manhole surface and any overlying layers.
3. The underlayment shall be applied throughout the manhole surface being coated at a minimum ½-inch total cured thickness and be free of trowel marks and irregularities after installation.
4. For extremely deteriorated manholes, the Owner may direct the Contractor to install an additional 1-inch of underlayment. Compensation for this shall be per the formal change order process.
5. Contractor shall ensure a uniform, sound clean neutralized surface with sufficient profile (minimum CSP-4 per ICRI Technical Guideline No. 03732) to bond with the coating system.

E. Surface Coating Application:

1. After the manhole has been adequately prepared (and, if applicable after underlayment layer has been applied), apply the approved surface coating system per manufacturer recommendations.
2. The required total cured thickness for the surface coating layer (not including the thicknesses of any underlayment or priming layers) for all coating systems shall be 125 mils, or 1/8-inch.
3. The Contractor shall employ whatever means necessary to ensure strong adherence of the surface coating layer(s) to any underlying and overlying layers and proper curing of the surface coating layer(s). If the surface coating is applied in two or more layers, the time between applications of the various layers shall be controlled to ensure proper bond between layers.

4. For all coatings, trowel marks and other surface irregularities shall be removed by using a short nap mohair paint roller. The short nap mohair shall be dampened with water. Excess water shall be shaken off prior to use.
5. Existing PVC liner that exist on manhole shafts, rings, benches, inverts or pipes passing through or connecting to the manholes shall be mechanically abraded up to 2-inches above and/or or below the area designated for coating application. The surface coating shall then be carefully butted against and then feathered over (2-inches minimum) to create a smooth transition of a continuous corrosion barrier coating system and the existing PVC liner.
6. Compound that has begun to set shall not be recovered by adding additional liquid but shall be discarded.
7. Do not allow flowing water, chemicals or other liquids on the approved, applied coating for a minimum of 4 hours after installation, or per manufacturer recommendations.

TP - 08.07 PVC WELDING:

A. Scope: The work covered by this section consists of furnishing all plant, labor, equipment and materials in connection with the rehabilitation of existing PVC sheet liner by PVC welding.

1. PVC welding shall include the following activities where indicated in the construction drawings:
2. Welding of joints on manhole adjustments, cones, barrels/shafts, and/ or benches.
3. Patch welding around pipes and at manhole step penetrations.
4. Patch welding of holes 8”x8’ and 2’x2’.
5. In the event the PVC sheet liner is determined to be unrepairable in accordance with the manufacturer’s recommendations, the Contractor shall prepare and submit an estimate for the complete PVC removal and rehabilitation of the affected manhole. Such work shall be contingent upon Owner approval and performed in accordance with the formal written change order process. The Owner shall not be charged for PVC weld repairs that are not completed.

B. General:

1. It shall be assumed that all existing PVC liner is “T-Lock” PVC sheet lining with locking extensions as manufactured by Ameron Protective Lining Products, Brea, California.
2. All specified rehabilitation materials shall be installed in strict accordance with the manufacturer’s application or installation instructions.
3. All cut, torn and seriously abraded areas in the lining shall be patched according to manufacturer’s instructions.
4. The contractor shall take all necessary measures to prevent damage to installed lining from equipment and materials used in or taken through the work.

C. Materials:

1. Liner: material used to match existing liner shall be Mini Diamond Key Liner as distributed by ArmorLok PVC Protective Linings, San Bernardino, California, or equal.
    a. Liner sheets shall be a minimum of 0.065 inch in thickness. Locking extensions (diamond-shaped) of the same material as that of the liner shall be integrally extruded with the sheet. Continuous locking extensions shall be approximately 2” apart and shall be approximately 1/4" high.
    b. Sheets shall have a nominal width of 48” and a length of not more than 48”, except that longer lengths may be supplied on special order. Lengths specified shall include a tolerance at a ratio of

±1/2” for each 100”.

2. Primer: For use prior to application of intermediate layer shall be ArmorLok Shieldlok Primer as distributed by ArmorLok PVC Protective Linings, San Bernardino, California, or equal.

3. Mastic: For intermediate layer, ArmorLok Shieldlok Mastic as distributed by ArmorLok PVC Protective Linings, San Bernardino, California, or equal, shall be applied. For larger areas, the ShieldLok epoxy mastic system, or equal, shall be applied.

4. Sealant: Ameron T-Lock 19Y adhesive system

5. Physical Properties: All plastic liner plate sheets, welding strips and other accessory items, shall meet the following physical properties when tested at 77ºF±5º:

Property	**Initial**	**Par.2.4**
Tensile Strength	220 PSI min. (15 MPA min.)	2100 PSI min. (14.5 MPA min)
Elongation at break	200% min	200% min.
Shore durometer, Type D (with respect to initial testing)	1-sec. 50-60 10-sec. 35-50	±5 ±5
Weight Change		±1.5%

   a. Tensile specimens shall be prepared and tested in accordance with ASTM D412. Weight change specimen shall be 1” by 3” samples. Specimens for testing of initial physical properties may be taken from liner sheet and welding strip at any time prior to final acceptance of the work.

   b. Continuous locking extensions embedded in concrete shall withstand a test pull of at least 100 pounds per linear inch, applied perpendicularly to the concrete surface for a period of one minute, without rupture of the locking extensions or withdrawal from embedment. This test shall be made at a temperature of 70º- 80ºF inclusive.

   c. All plastic liner plate sheets, including locking extensions, all joint, corner and welding strips shall be free of cracks, cleavages or other defects adversely affecting the protective characteristics of the material. The engineer may authorize the repair of such defects by approved methods.

   d. The lining shall be repairable at any time during the life of the structure.

6. Chemical resistance: The following concentrations shall be used as a pre-qualification test and when material formulations are changed.

   After conditioning to constant weight at 110ºF, tensile specimens and weight change specimens shall be exposed to the following solutions for a period of 112 days at 77ºF ± 5º.

   At 28-day intervals, tensile specimens and weight change specimens shall be removed from each of the chemical solutions and tested in accordance with Paragraph 2.3.2. If any specimen fails to meet the 112-day requirement before completion of the 112-day exposure, the material will be subject to rejection.

Chemical Solution Concentration	**Concentration**
Sulfuric acid	20%
Sodium hydroxide	5%
Ammonium hydroxide	5%*
Nitric acid	1%*

Ferric chloride	1%
Sodium hypochlorite	1%
Soap	0.1%
Detergent (linear alkyl benzyl sulfonate or LAS)	0.1%
Bacteriological	BOD not less than 700 ppm

* *Volumetric percentages of concentrated C.P. grade reagents.*

D. Joints in Lining

1. Lining at joints shall be free of all mortar and other foreign material and shall be clean and dry before joints are made.
2. Damaged liner and substrate shall be removed and repaired. Lightly abrade existing liner to the limits of the new plain sheet to remove contaminants. Install plain sheet over repair area and weld to meet the specifications of ArmorLok, or equal.
3. Maximum size is 12 inches to original liner anchorage. For larger areas, epoxy mastic system must be applied, ShieldLok, or equal.
4. Field joints in the lining shall be of the following described types:
   a. Type J-1: The joint shall be made with a separate 4" joint strip and two welding strips. The joint strip shall be centered over the joint, heat-sealed to the liner with the goal that all overlapping liner is bonded, an angle grinder with a sanding disk shall be used to lightly profile area where 1" welding strip will be placed to remove sheen and contaminants, then welded along each edge to adjacent sheets with a 1" wide welding strip all ends of weld strip shall be melted smooth to avoid snags. The width of the space between adjacent sheets shall not exceed 3". The joint strip shall lap over each sheet a minimum of 1⁄2". It may be used at any transverse or longitudinal joint.
   b. Type J-2: The joint shall be made by lapping sheets not less than 1⁄2". One 1-inch" welding strip is required. The upstream sheet shall overlap the one downstream when practical. The lap shall be heat-sealed with the goal that all overlapping liner is bonded, an angle grinder with a sanding disk shall be used to lightly profile area where 1" welding strip will be placed to remove sheen and contaminants prior to welding on the welding strip all ends of weld strip shall be melted smooth to avoid snags.
5. All welding is to be in strict conformance with the specification of the lining manufacturer.

E. Sealing Penetrations in Lined Walls:

1. Follow manufacturer's application and installation instructions and details to seal and repair penetrations in lined walls.
2. Penetrations shall be grouted and sealed and repaired using a special formed boot secured to pipe with stainless steel clamp and weld strip.
3. Sealant and grout materials shall be as recommended by manufacturer and per these Technical Provisions.
4. If concrete is exposed at existing manhole steps that were not properly sealed, Contractor shall remove hardware and repair penetrations per these Technical Provisions.

TP - 08.08 PVC SHEET LINER REMOVAL:

A. For existing manholes lined with an existing PVC sheet liner that cannot be repaired, the Contractor shall entirely remove the existing PVC liner (including any underlayment layers) prior to performing cleaning

and preparation activities.

B. If the "tees" (i.e., the portion of the PVC liner that is embedded in the concrete) are not "strongly embedded" in the concrete, the Contractor shall entirely remove the tees from the concrete and shall remove both the PVC liner sheet and the tees from the manhole.

C. For the purposes of making this determination, "Strongly Embedded" shall be defined as embedded within the concrete well enough that when the PVC liner is cut into strips (i.e., by cutting the PVC liner parallel to the tees at a point midway between each line of tees) and a pulling force of 100 pounds is applied to each strip incrementally along the length of each strip to pull said tees from the concrete, said force is insufficient to remove the embedded tees from the concrete. Tees that remain firmly embedded in the concrete after doing so are judged to be "strongly embedded".

D. If the tees on the back of the PVC liner are strongly embedded in the concrete, the Contractor may cut the PVC liner sheet loose from the tees and leave the tees embedded and flush with the surface of the concrete. Mortar shall be used to ensure no voids surrounding the tees left in place. No portion of the tees shall protrude above the surface of the concrete following surface preparation.

E. By way of additional explanation: Using the criterion given in this Section, the Contractor may be able to leave the tees in place in one portion of a manhole (where the tees are strongly embedded) and yet be required to remove them from another portion of the same manhole (where they are not strongly embedded). The Contractor may, at his own discretion, proceed to remove tees determined as “strongly embedded” from the concrete, provided such is done at no additional cost to the Owner.

TP - 08.09 MANHOLE FRAME AND COVER REHABILITATION:

A. Frame and Cover Adjustment: The contractor shall furnish all materials, equipment, tools and labor required for the adjustment of rings and covers to grade in accordance with Section 06.03.B.5 (Sanitary Sewers) of the Technical Provisions and installed to the dimensions shown on the contract documents.

1. The ring and cover to be adjusted shall be located and clearly marked.

2. The existing road or ground surface shall be cut all around the ring and cover (being careful to not create stress fracture points in the corners by over-cutting) to an adequate depth that will allow the desired adjustments to be accomplished. If the cut is not deep enough, the increase in depth may be accomplished with the use of various digging investments.

3. All of the road or ground inside of the cut shall be removed to allow safe working conditions during the adjustment and restoration to the proper height or level.

4. The ring shall be positioned, either by suspension or by placement on the correct amount of adjustment rings, If the positioning is accomplished by suspension, the required retainer shall be installed properly.

5. Once the ring is properly positioned and secured, the open area shall be filled and properly compacted with the materials prescribed in the bid documents and finished off in a manner to meet the requirements of the technical provisions.

6. If the area has been filled (in whole or in part) with poured concrete and/or asphalt, it shall be adequately protected by control devices for a period of time that will allow the fill to properly cure before allowing traffic to resume.

B. Frame and Cover Replacement:

1. The Contractor will replace manhole frame and covers as indicated in the plans in accordance with Section 06.03.B.3 (Sanitary Sewers) of the Technical Provisions and installed to the dimensions shown on the contract documents.

2. The Contractor shall use manhole debris shields or other approved method to prevent debris from entering the sewers at no additional cost to the Owner.

3. The Contractor shall apply a rust preventative permanent coating to manhole frame and cover prior to installation. Coating shall be POR-15® Rust Preventive Coating, or equal.

4. For extremely deteriorated manholes, the Owner may direct the Contractor to replace up to 12" of adjustment rings. Compensation for this shall be per the formal change order process. In the absence of written direction from the Owner to install the additional adjustment rings, no additional payment will be due to the Contractor.

C. Bolt Replacement on Covers:

1. For manhole covers that require bolt replacement, Contractor shall replace bolts with equal size bolt. Bolt openings range from 0.38-0.50-inches and shall be field verified by the Contractor.

2. Contractor shall clean rust out of the mating surface to ensure proper seating of cover in the ring. Grease, oil, and other foreign substances shall be removed from the cover and contractor shall apply a rust preventative permanent coating designed for application directly on rusted surfaces, POR-15® Rust Preventive Coating, or equal.

TP - 08.10 MANHOLE BENCH REPAIR, CREATION OR ADJUSTMENT

A. General:

1. This section describes the materials, equipment and procedure for the purpose of repairing an existing bench, adjusting the height, or creating a new bench section in a concrete sewer manhole. Repair or renewal with specified materials is considered a structural repair. An approved contractor shall furnish the complete installation of the cement material. All of the cleaning, preparation and application procedures shall be in accordance with the manufacturer's recommendation and per Section 08.06 of these Technical Provisions. Benches shall be lined with an approved coating system per Section 08.06.

2. This section addresses both manholes with existing benches to be repaired or adjusted and manholes with no bench currently in place (lack necessary sloping channel). The two processes are similar but the manhole with no current bench requires special attention to be paid to the depth of the material being applied and how it should be cured. For both applications, leaking should be stopped with the use of a specified infiltration control material.

   a) Condition 1: No bench present. Clean the repair area and apply the bench repair material from the bottom of the manhole to the height and slope required. If the bench requires more than 3 inches of cement material the repair process will be conducted in multiple steps.

   b) Condition 2: For benches that need to be repaired or adjusted. Clean the repair area and apply the bench repair material to the required height and slope. This specification addresses: bench renewal, a partial reconstruction, the creation of a bench and the sealing of the bench section.

B. Bench Repair Materials

1. Use Fast Set Bench Repair (FSR), a dry factory blended, fast setting, and shrink compensating cement material, or an approved equal to build the bench. The high- strength cement material must be resistant to temperature fluctuations, have a minimum of 8,000 PSI compressive strength (28 days), and a volume change of less than 0.02 percent, while containing no calcium chloride, gypsum, or high lime. The set time should be between 8 to 15 minutes (final set in 30 minutes).

2. For the best results, use a mechanical mixer with an appropriate mixing blade. Pre-mix the cement material thoroughly (in the original container for one minute). Place approximately 3 quarts of clean potable water into the container and mix the dry cement material on low RPM, 3-5 minutes or until a uniform consistency is achieved. Mix only enough material that can be placed within the working

time. For placements greater than 3 inches in depth, the cement material may be extended up to 30%, by weight, with clean dry 3/8-inch pea gravel. Do not blend excess water into the mixture as this will cause bleeding and segregation. Apply the cement material by hand or with a trowel, level and smooth. Repair the bench area to the required pipe diameter by adjusting, reforming, or creating the height required. Keep the cement material damp. Follow the manufacturer's application instructions. Standard Cement Materials Inc., Fast Set Bench Repair (FSR), is an approved material.

3. Physical Properties Bench Repair Materials Requirements:

Compressive strength	(1 day)	ASTM C109	>2,800 PSI
	(28 day)	ASTM C109	>8,000 PSI
Bond strength		ASTM C321	>140 PSI
Percent expansion		ASTM C1107	<1.20%

4. Stop all active leaks with Custom Plug a single component, dry, factory blended, fast setting Hydraulic cement material specifically formulated for stopping water and minor infiltration, or approved equal. The cement material should set in 60-90 seconds. No modification should be made to the manufacturer's written recommendations for handling, mixing, placing and finishing of this product. Standard Cement Materials Inc., Custom Plug, or equal, is an approved material.

C. Execution:

1. Contractor shall determine necessary flow control options for each specific manhole condition. In all situations the flow must be controlled long enough for the cement material to properly set.
2. Dampen the entire surface area of the bench, allowing no noticeable free water droplets or running water to remain. Set form boards if required. Begin at the top edge of the bench, apply the cement material in one layer up and around to the wall.
3. Place the cement material along the wall to include the top edge of the bench area. Apply the cement material in such a manner so as to produce a gradual slope to the bottom of the wall. Build the bench up to a uniform height at the circumference. Insure that the floor of the manhole outside the channels (benches) shall be smooth and shall be sloped no less than ½ inch per foot (4 percent) and a max of 2 inches per foot (16 percent).
4. For full pipe bench repair, form smooth, U-shaped inverts, which have a depth equal to the pipe diameter. For spring line bench repair, form smooth, U-shaped inverts, which have a depth equal to the one half of the pipe diameter. Follow the slope up and along the entire length of the wall. Invert channels will be constructed to provide a smooth flow transition that sweeps into the direction of flow. Use a stainless-steel trowel to compact the cement material into all the voids, level and smooth the surface. Trim all sewer pipes that enter or exit the manhole so that they have a smooth edge and are flush with the manhole wall.
5. In order to reconstruct or form new benches, the Contractor will be required to provide dry working conditions in all manhole bench and invert areas to allow the concrete and other materials to set properly. See Section 08.13, Maintain and Protect Existing Sewer Flows, for requirements for bypass plans, flow-through tubes, and plugs.
6. Do not allow flow over the concrete or corrosion protective coating until it is adequately cured.

TP - 08.11 TESTING

The Contractor shall furnish appropriate equipment and supplies for pH testing, holiday/spark testing, dry and wet film thickness testing, and coating adhesion testing. The Contractor shall provide trained personnel for performing required acceptance testing, including the operation of holiday detection devices.

A. VISUAL INSPECTION OF MANHOLES PREPPED FOR COATING:

For existing manholes, a manhole suitably prepared for coating shall have all loose, soft, discolored or otherwise deteriorated material removed from the manhole and the surface of the manhole shall have a texture at least as rough as course (60 grit) sandpaper. Upon Owner's request, a Construction Representative may use one or more of the following observations/tests to determine whether the manhole has been properly cleaned and prepared:

1. Visual appearance of the manhole – The prepared substrate shall have the appearance of sound concrete (or brick and/or mortar), free from discolored, white, chalky and cracked areas.
2. Aural observations – When struck with a metal hammer or tool, the prepared substrate shall exhibit the characteristic sound of solid, competent concrete (or brick).
3. Mechanical abrasion tests – The substrate should be competent enough such that it cannot be scraped off with the claw of a hammer or similar metal tool.
4. pH testing – The Owner Construction Representative may use wetted litmus paper applied to the surface of the substrate to ensure that the pH of the substrate is 7 or higher.
5. Phenolthalein testing – The Owner's Representative may apply a few drops of phenolthalein to the surface of the concrete, which if the concrete is competent should yield a purple color.
6. Before application of the lining system, use the "Visqueen test" (ASTM D4263) to evaluate moisture level in concrete.

B. ADHESION/BOND TESTING: Testing shall be conducted in accordance with ASTM D4541, ASTM D7234, or NACE SP018 for adhesions/bond of the coating to the substrate. Owner's representative shall select the manholes to be tested and be present for testing. The adhesion/bond testing is in addition to the spark testing discussed in another section:

1. There shall be a minimum of one (1) finished coating system adhesion test for every five (5) manholes (take the number of manholes included in the project, divide by five, and if the result is not a whole number, then round up to the next whole number.) Surface shall be checked following surface preparation and coating application.
2. A minimum of three (3) - 50 mm dollies shall be affixed to the coated surfaces in areas suspect from non-destructive evaluation and testing. The adhesive used to attach the dollies to the coating shall be rapid setting with tensile strengths in excess of the coating product and permitted to cure in accordance with manufacturer recommendations. The coating and dollies shall be adequately prepared to receive the adhesive.
3. Failure of the dolly adhesive shall be deemed a non-test and require retesting. Prior to performing the pull test, the coating shall be scored to the substrate by mechanical means without disturbing the dolly or bond within the test area. d. Two of the three adhesion pulls shall exceed 300 psi or concrete failure with more than 50% of the subsurface adhered to the coating.
4. Should a structure fail to achieve two successful pulls as described above, additional testing shall be performed at the discretion of the Owner. Any areas detected to have inadequate bond strength shall be evaluated by the Owner.
5. Further bond tests may be performed in that area to determine the extent of potentially deficient bonded area and repairs shall be made by Contractor. All testing shall conform to these contract specifications and submittals.

C. HOLIDAY/SPARK TESTING:

Holiday/Spark testing shall be performed on all composite cement and epoxy system rehabilitated manholes. Rehabilitated manholes shall be tested by the Contractor using high-voltage holiday detection equipment ("spark tester") following the published standards of the NACE SP0188-2006, to detect cracks, pinholes, thin spots, etc. An induced holiday shall be made on the coated surface and shall serve to determine the minimum/maximum voltage to be used to test the coating for holidays at the particular area. The cost to perform these tests shall be incidental to the manhole rehabilitation.

Testing equipment and procedures shall be performed per NACE SP0-188. Areas containing holidays shall be marked, repaired, re-coated, and re-tested per the coating manufacturer's printed instructions. High-voltage pulse-type holiday detectors shall be adjusted to operate at the voltage required to cause spark jumps across air gaps equal to twice the specified coating thickness. The minimum applied voltage for 125 mils coating shall be 12,500 volts or at a setting as the coating manufacturer requires. The inspection equipment shall be in good working order and annually certified by the equipment manufacturer. Certificates of calibration shall be provided to the Engineer upon request.

The spark tester shall be initially set at 100 volts per one (1) mil of film thickness applied but may be adjusted as necessary or as recommended by the protective coating manufacturer to detect the induced holiday. All detected holidays shall be marked by abrading the protective coating with grit paper or other hand tooling methods and repaired.

All touch-up/repair procedures shall follow the protective coating manufacturer's recommendations. All defects shall be promptly repaired and re-inspected until satisfactory results are obtained.

Minimum requirements of the corrosion protection coatings and/or lining system are that it be free of the following: Uncured material, inadequate thickness, pinholes, blisters, delamination, foreign matter, unspecified materials.

If test results indicate noncompliance with these specifications, the following corrective action may be required of the Contractor:

1. Remove non-compliant systems of components and replace with assumed testing expenses.
2. Repair area shall be a minimum size of 4" x 4" square or 2 inches larger than area being repaired, which ever is larger.
3. If there are more than 5 repairs per any 3 vertical feet, the complete epoxy layer shall be removed and re-applied.

D. MIL GAUGE TEST:

1. During installation, a mil gauge shall be used to verify that the minimum thickness of the lining meets and/or exceeds the minimum thickness as specified herein.
2. The Contractor shall report the wet film thickness measurement to the Engineer. The information shall be presented after underlayment top coating operations are completed and shall state the number of manufacturer's product units used and the total square footage of surface area covered. The Engineer shall have the option of requiring the Contractor to document the number of units (coating materials) on hand before and after coating operations to verify the actual minimum dry film thickness applied. All film thicknesses not meeting the required minimums will be re-coated per the manufacturer's recommendations to the required minimum 125 mils thickness.

TP - 08.12 MAINTAIN AND PROTECT EXISTING SEWER FLOWS

A. The Contractor shall be aware that the existing manholes included in this project are active, functioning manholes. The Contractor shall be required to maintain existing sewer flows.

B. In some cases, the Owner may (at the Owner's Utility sole discretion) be able to divert a portion of the sewer flow away from a manhole. The Contractor shall maintain daily contact with the Owner' Utility Staff to allow the Owner to coordinate these diversions if any.

C. When re-building manhole benches, the Contractor shall confine and convey the flow through the manhole using flow-through tubes:

1. The Owner anticipates that flows can be handled through the use of flow-through tubes (Stemar Inc. or approved equal) without aboveground bypass pumping. Surcharging upstream of the subject manhole shall not exceed one half of the vertical distance from the manhole invert to the ground surface or ten feet, whichever is less. In addition, the surcharging pressure shall not exceed the design capacity of the plug associated with the flow-through tube. Surcharging in the nearest upstream manhole shall be continuously monitored whenever the flow-through tube is in place. Any incidentals, such as the fabrication of specialty wye tee, or similar fittings for the flow-through tubes, shall be provided at no additional cost to the Owner.

2. The Contractor shall submit manufacturer's literature, illustrations, specifications, engineering data (including information about materials of construction, dimensions, hose sizes, plug sizes, inflation pressures, plug blow-out pressures, weight, performance data, maximum surcharging depth and pressure, etc.), mounting information, methods of securing bypass equipment, and design calculations for upstream surcharging resulting from the design flow rate. The calculations shall be stamped by an engineer registered to practice such discipline within the State of Arizona.

D. Flow from existing active service connections entering the manhole shall be maintained or bypassed if the flow will affect proper coating system application/installation. Bypass piping system shall have a minimum internal diameter of 4-inch for sewer lines 8-inch and smaller. Provide all anchor bolts, supports, stabilizing bars, angles or rods, fasteners, and other accessories required for installation of the equipment. All tubes shall be flexible plastic piping suitable for wastewater service.

E. If the Contractor chooses to do night-time work to minimize sewer flows, said night-time work shall be at no additional cost to the Owner. This requires prior approval from the Owner before commencing.

F. The Contractor may propose other means to remove the flow from the active concrete work area (e.g., water-tight formwork or aboveground bypass pumping) in lieu of the flow-through tubes. However, aboveground bypass pumping will not be allowed without special permission from the Engineer and only then with the requirement that all suction and discharge pipes that cross or are located in traffic lanes that will carry traffic during construction are buried below the ground surface with temporary pavement patches over them, later to be removed and the pavement permanently patched. Additional cost for above ground bypass pumping will also not be approved.

TP - 08.13 SAFETY

The Contractor shall perform all Work in strict accordance with all applicable OSHA regulations. Each method of manhole rehabilitation in this section requires some degree of manhole entry by workers. Particular attention is drawn to those safety requirements regarding confined space entry and respiratory protection from airborne particulate materials during cleaning and product mixing and application. These safety measures shall be at no additional cost to the Owner. The Owner shall not be responsible for safety or for safety monitoring of the job site.

TP - 08.14 CLEAN-UP

Any spilled or over sprayed material must be cleaned-up prior to curing. After curing has occurred, clean-up may be accomplished by chipping or blasting. All discarded materials shall be disposed of properly. Clean-up and disposal of discarded material shall be at no additional cost to the Owner

TP - 08.15 WARRANTY

A. General:

1. The Contractor shall provide a written non-prorated one-year warranty for all materials and the installation of protective coatings or rehabilitation systems applied to sanitary sewer manholes. The warranty shall be delivered to the Owner prior to and as a condition of final acceptance and final payment for this project.

2. If the protective coating or PVC sheet liner weld repair fails within one years from the date of substantial completion and Letter of Acceptance by the Owner, the Contractor will repair or replace the defective coating or PVC weld at no cost to the Owner, including all materials and labor. The repair or replacement shall be completed within 30 days of notice from the Owner.

3. A coating failure is defined as blistering, cracking, embrittlement, softening, peeling, pitting, or adhesion failure to the substrate. The warranty shall cover the products, installation, and workmanship of the entire coating system, including all repair materials, defect fillers, primers, and all intermediate and finish coats. The warranty shall include but is not limited to all labor, equipment, permitting, traffic control, bypass pumping, third-party quality control inspection, and installer General Conditions required to repair or replace defective or failed coatings. Any testing performed during construction, including but not limited to spark testing and adhesion testing, shall not in any way modify the warranty or relieve the Contractor from its responsibility to repair or replace failed coatings or welds. Mechanical damage due to maintenance operations or ancillary work on the coated manhole or structure by others is excluded from this warranty. The Contractor will have a list of warranted structures and the Owner's Manhole Number for each listed structure.

4. The Contractor shall be the single point of contact for the Owner for all warranty issues and claims and is solely responsible to the City for the supply, administration, and execution of all repairs and replacements covered by this warranty.

5. The Contractor shall submit a certification letter to the Engineer documenting the effective warranty date, typically after all manholes have passed testing and after any manhole adjustments are complete for the specific project. The effective warranty date may also be a mutually agreed upon date or some other established acceptance date if otherwise directed by the Engineer or the Owner.

B. 11-Month Warranty Period Inspection:

The Engineer may conduct inspections before one year following substantial completion and Letter of Acceptance of new coating work and/or repaired coating work. The Contractor shall be notified of any apparent coating failures. The Contractor shall be responsible for any coordination with the coating manufacturer on the resolution and remediation of the coating failures. Defective work or coating failures shall be repaired per specifications and to the satisfaction of the Engineer. All associated labor and material costs associated with those repairs shall be the responsibility of the contractor. The Owner will schedule the inspections and notify the Contractor at least two (2) weeks in advance so that a contractor’s representative may be present for the inspections. If warranty inspections are not held, the Contractor is not relieved of responsibilities under the contract documents.

TP - 08.16 METHOD OF MEASUREMENT AND BASIS FOR PAYMENT:

Except for the following items, the cost of all work done by the Contractor as required under Section 08 of the Technical Provisions shall be merged with the pay items defined within the Measurement and Payment portions of other Technical Provisions of this contract.

A. Manhole Cleaning and Debris Removal: Manhole cleaning and debris removal shall be measured each per manhole. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for successful

manhole cleaning efforts required to perform rehabilitation activities, including but not limited removal of grease, roots, silt, sediment, debris or any other foreign materials from the manhole, cleaning of walls, benching, channel and other internal components, safe disposal and removal of all debris, traffic control as needed, and any water supply required for cleaning operations.

B. Raise Frame and Cover to Grade: The adjustment of frame and cover to grade shall be measured as each. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete installation, including but not limited to removal and disposal of the existing frame and cover, debris covers, installing new manhole frame and cover, pavement sawcut and removal, pavement replacement, existing concrete collar demolition and disposal, installing new concrete collar, and grade adjustment rings. Payment for sidewalk and/or curb and gutter replacement will be considered a non-pay item.

C. Ring and Cover Replacement: The replacement of manhole ring and covers shall be measured as each. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete installation, including but not limited to removal and disposal of the existing frame and cover, debris covers, manhole insert with lifting strap, installing new manhole ring and cover, manhole insert with lifting strap, rust preventative coating, pavement sawcut and removal, pavement replacement, existing concrete collar demolition and disposal, installing new concrete collar as needed. Payment for sidewalk and/or curb and gutter replacement will be considered a non-pay item.

D. Bolt Replacement on Covers: Bolt replacement on covers shall be measured each. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete installation, including but not limited to a minimum of four (4) bolts per cover, manhole insert with lifting strap, the cleaning of rust out of mating surface of cover and bolt holes, and rust preventative coating.

E. PVC Liner Removal: PVC liner removal shall be measured as each per manhole. Only one manhole requires the removal of sheet liner system on both the bench and adjustment rings. PVC sheet liner removal includes removing failing liner at benches and up to 13 vertical inches per manhole on adjustments. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete removal, including but not limited to PVC sheet liner removal and disposal, and any additional cleaning, surface preparation activities prior to coating.

F. Coat Adjustments: Coating systems applied to manhole adjustment shall be measured as each. Adjustment requiring coating will not exceed 13 vertical inches per manhole. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete installation, including but not limited to cleaning and surface preparation activities, underlayment (as needed), corrosion protective coating system, safety equipment, debris removal and disposal, warranty, all materials and equipment for testing, and clean up.

G. Coat Bench/Invert: Coating systems applied to manhole bench/invert shall be measured as each. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for a complete installation, including but not limited to cleaning and surface preparation activities, underlayment, corrosion protective coating system, safety equipment, removing flow from the work area through the use of flow-through tubes, plugs, or other approved method, debris removal and disposal, warranty all materials and equipment for testing, and clean up.

H. Rebuild Manhole Bench and Invert: Rebuild of manhole bench and invert shall be measured each. Payment shall be at the contract unit price shown on the Bid Schedule, which shall be full compensation for furnishing all labor, equipment, material, and incidentals required for complete installation including

but not limited to cleaning, removing and disposing of deteriorated concrete, removing flow from the work area through the use of flow-through tubes or other approved method, work to re-construct and resurface the bench (including bottom and flow channels), and corrosion protective coating of the re-constructed surfaces. Since coating system on the re-built bench (and other surfaces below the manhole riser section) is included in the bid item, that work shall not also be payable under other bid items.

I. PVC Welding: Rehabilitation of existing PVC sheet liner by PVC welding shall be measured each (as in lump sum per each manhole). The number of welding areas required in each manhole shall be no more than a total of 4 joint sections and/or 4 patches. Payment shall be at the contract unit price shown on the Bid Schedule which shall be full compensation for furnishing all labor, equipment, material, warranty, and incidentals required for complete PVC welding which includes, but is not limited to the following activities where indicated in the construction drawings: 1.) joints on manhole adjustments (24-30" diameter), cones, shafts (30" diameter), and/ or benches (30" diameter, 2) patches around pipe and step penetrations, or 3) patch welding of holes 8"x8' and 2'x2' in size. Wherein the PVC sheet liner is deemed unrepairable per manufacturer recommendations, the Owner will request a unit price per vertical foot from the Contractor to remove the sheet liner and coat the entire manhole through the written change order process.

J. Contingency Adhesion/Bond Testing: [Deleted].

COATING SYSTEM PERFORMANCE HISTORY

PROJECT NO:_____

INFORMATION REQUIRED FROM LOW BIDDER (MUST BE COMPLETED AND SUBMITTED AFTER THE BID OPENING). PERFORMANCE HISTORY FOR THE APPLICATION OF THE SPECIFIED OR SIMILAR COATING / LINING FOR THE PREVIOUS THREE (3) YEARS

Contractor Name: _____

Project: _____

Date: _____

Locations: _____

Client: _____ Client Phone: _____

Material Applied: _____

Failures: _____

Contractor Name: _____

Project: _____

Date: _____

Locations: _____

Client: _____ Client Phone: _____

Material Applied: _____

Failures: _____

Contractor Name: _____

Project: _____

Date: _____

Locations: _____

Client: _____ Client Phone: _____

Material Applied: _____

Failures: _____

SUBMITTAL REVIEW FORM

SECTION 08 – MANHOLE REHABILITATION

	DATE	INITIALS	Submittal No.	
Received by ENGINEER:			Project No.	
Received by OWNER:			Contract No.	

TP	Specification	Description (Indicate Type, Model No., Manufacturer, etc.)	Action By Owner
08.02	Quality Assurance Plan (QAP)		
08.04	Manufacturer's Data		
08.04	Work Procedures & Sequencing Plan		
08.04	Progress Photos		
08.05	Coating System Methods & Materials		
08.06	Coating System Certification, References and Performance History		
08.06	Manhole Cleaning & Debris Removal Method/chemicals		
08.06	Surface Preparation Methods		
08.06	Underlayment Material		
08.06	Surface Coating Application		
08.07	PVC Welding Methods & Material		
08.08	PVC Sheet Liner Removal Method		

08.10	Manhole Frame & Cover		
08.10.B	Bench Repair Materials		
08.10	New Bench Profile Drawing		
08.10	Flow-Thru Tube (If Applicable) Or Bypass Plan		
08.11	Testing: Adhesion, Holiday, and Mill Gauge Testing Equipment and Procedures		
08.13	Confined Space Entry Program/Policy		
08.15	Warranty		

	Signature	Date
CONTRACTOR:		
OWNER APPROVAL:		

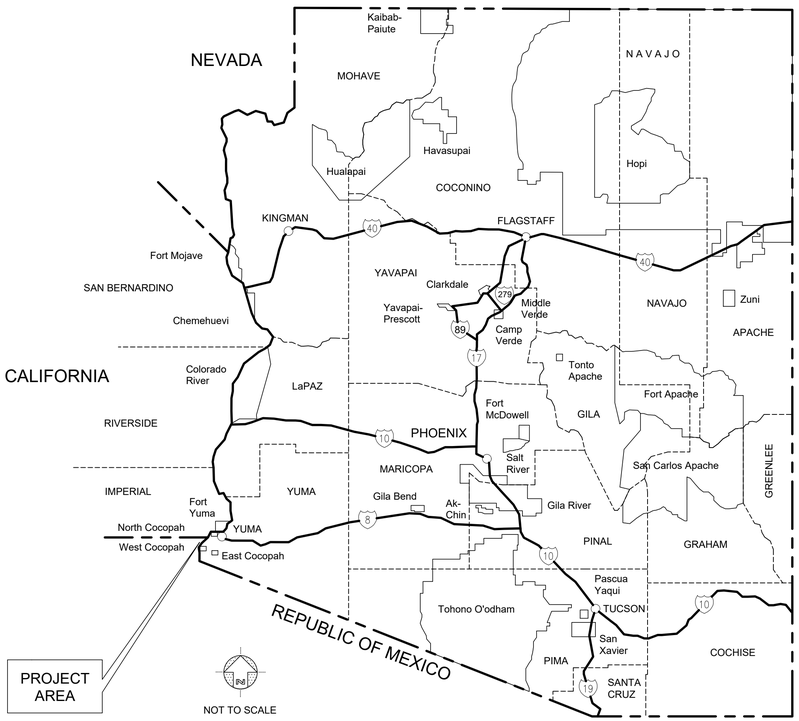
EXHIBIT TO TECHNCIAL PROVISION 08: TASK BREAKDOWN

TASK	ESTIMATED QUANTITY	MANHOLES	ADDITIVE ALTERNATIVES
TASK 1 – MOBILIZATION / DEMOBILIZATION	1 EA	-	-
TASK 2 – MANHOLE CLEANING & DEBRIS REMOVAL	49 EA	MANHOLE CLEANING AND DEBRIS REMOVAL SHALL OCCUR IN ANY AND ALL MANHOLES BEING REHABILITATED PER THE LIST BELOW	
TASK 3 – FRAME & COVER REPLACEMENT	6 EA	NORTH: 3 WEST: 2, 2A, 3, 6, 14	2N, 4N, 13W, 18W, 15, 25, 40, 46
TASK 4 – RAISE FRAME AND COVER TO GRADE (INCLUDES REPLACING FRAME & COVER)	2 EA	WEST: 2A, 12	
TASK 5 – BOLT REPLACEMENT ON COVERS (INCLUDES REHAB OF MATING SURFACE	8 EA	NORTH: 2, 4 WEST: 15, 25, 26, 40, 41, 46	
TASK 6 – REMOVE PVC LINER FROM MANHOLE BENCH OR ADJUSTMENT	9 EA	WEST COCOPAH ONLY ADJUSTMENTS: 7, 10, 14 BENCHES: 5, 6, 8, 14, 15, 16, 21	
TASK 7 – COAT ADJUSTMENTS (UP TO 13 VERTICAL INCHES PER MANHOLE)	30 EA	NORTH: 2, 3A, 3, 4-8, 10-13 WEST: 2, 2A, 5, 7, 10, 14, 21, 29, 32, 39, 42-49	
TASK 8 – BENCH COATING SYSTEM	45 EA NORTH: 12 EA WEST: 33 EA	NORTH: 2, 3, 3A, 4-8, 10-13 WEST: 2A, 3, 5-8, 10, 14-19, 21, 25, 27-32, 37-40, 42-49	
TASK 9 – REBUILD BENCHES & INVERT	5 EA	NORTH: 7, 8 WEST: 3, 7, 29	

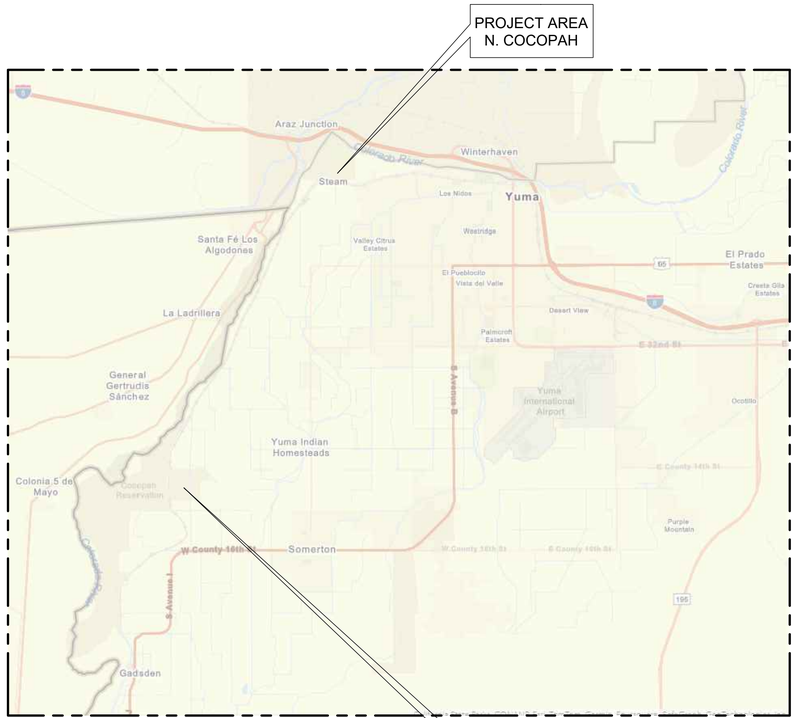
TASK 10 – PVC WELDING REPAIRS	TOTAL NO. MANHOLES: 24 EA WELD JOINTS: 21 ADJUSTMENTS + 25 SHAFTS = 46 WELD AT PIPE PENETRATIONS: 3 WELD PATCHES OVER HOLES: 5	5N (2 SHAFT JOINT, 1 PIPE PENETRATION) 6N (3 SHAFT JOINT, 4 SHAFT PATCHES) 13N (2 SHAFT JOINT) 2W (1 SHAFT JOINT) 2AW (2 SHAFT JOINT) 3W (4 ADJUSTMENT JOINT) 5W (3 SHAFT JOINT) 6W (2 ADJUSTMENT JOINTS) 8W (1 ADJUSTMENT JOINT, 1 SHAFT JOINT) 10W (1 SHAFT JOINT) 14W (1 STEP HOLE, 1 PIPE PENTRATION) 15W (1 - 2'X2' PATCH) 18W (3 SHAFT JOINT) 19W (1 ADJUST, 2 SHAFT JOINT) 20W (1 ADJUST JOINT) 24W (2 ADJUST JOINT, 2 BENCH WELDS) 28W (2 ADJUST JOINT) 30W (2 ADJUST JOINT, 1 SHAFT JOINT) 31W (2 SHAFT JOINT) 37W (2 ADJUST JOINT) 38W (2 ADJUST JOINT) 39W (2 SHAFT JOINT) 40W (1 PIPE PENETRATION, 2 ADJUST JOINT) 44W (1 VERTICAL JOINT IN CONE)	

CONSTRUCTION DRAWINGS

INDIAN HEALTH SERVICE
SANITATION FACILITIES CONSTRUCTION
PUBLIC LAW 86-121 I.H.S.
COCOPAH INDIAN RESERVATION
NORTH & WEST COCOPAH COMMUNITIES
YUMA COUNTY, AZ
NORTH AND WEST COCOPAH MANHOLE REHABILITATION PROJECT
PH 20-V64 / WA 02-25



LOCATION MAP



VICINITY MAP

Sheet List Table		
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GENERAL		
01		COVER SHEET
02		NOTES
CIVIL		
03		NORTH COCOPAH
04		WEST COCOPAH SOUTH
05		WEST COCOPAH NORTH
06		DETAILS I
07		DETAILS II

DATE	REVISIONS	INIT.

PROFESSIONAL ENGINEER – STATE OF NEVADA
MAGGIE E. ZIOLS
Exp: 06-30-26
CIVIL
No. 029581
5-2-26

INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL
HEALTH & ENGINEERING

WESTERN ARIZONA DISTRICT OFFICE
1553 WEST TODD DRIVE, SUITE 104
TEMPE, AZ 85283
(480) 592-0091

INDIAN HEALTH SERVICE 1955

NORTH & WEST COCOPAH
COCOPAH TRIBE OF ARIZONA
YUMA COUNTY, AZ
COVER SHEET
PH 20-V64 / WA 02-25

DRAWN BY: C.GROOMS DATE: 05/25
CHECKED BY: M.ZIOLS DATE: 05/25
APPROVED BY: L.BERNASCONI DATE: 05/25

FILE NAME: N.COCOPAH-COVER
WA NUMBER: 02-25
PROJ ENG: JOEL GARCIA

Cover
SHEET 01 OF 07

CONTACTS:

OWNER'S REPRESENTATIVE
RUDY ALCALA
COCOPAH INDIAN TRIBE PUBLIC WORKS DIRECTOR
928-210-1807

ENGINEER OF RECORD
(INDIAN HEALTH SERVICE)
MAGGIE ZIOLS, PE
775-856-6064

PROJECT ENGINEER
(INDIAN HEALTH SERVICE)
JOEL GARCIA
480-466-7825

VACANT
CULTURAL RESOURCES DEPARTMENT
928-627-4849

ARIZONA PUBLIC SERVICE CONSTRUCTION HELP LINE
602-371-6140

CABLE (SUDDENLINK)
760-873-4123

TELEPHONE / F.O. (VERIZON)
1-888-426-3889

ENGINEERS NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL METHODS, SEQUENCING, AND SAFETY CONCERNS ASSOCIATED WITH THIS PROJECT DURING CONSTRUCTION, UNLESS SPECIFICALLY ADDRESSED OTHERWISE IN THIS PLAN OR ELSEWHERE IN THE CONTRACT.
2. THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FOR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. THE QUANTITIES AND SITE CONDITIONS DEPICTED IN THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE SUBJECT TO ERROR AND OMISSION. CONTRACTORS SHALL SATISFY THEMSELVES AS TO ACTUAL QUANTITIES AND SITE CONDITIONS PRIOR TO BIDDING THE WORK FOR THE CONSTRUCTION COVERED BY THIS PLAN.
4. A REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATIONS OF EXISTING UNDERGROUND FACILITIES AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THEIR CONSTRUCTION OPERATIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION OF CONSTRUCTION AFFECTING UTILITIES AND THE COORDINATION OF ANY NECESSARY UTILITY RELOCATION WORK.
6. ALL PAVING, GRADING, EXCAVATION, TRENCHING, PIPE BEDDING, CUT, FILL AND BACKFILL SHALL COMPLY WITH THE RECOMMENDATIONS SET FORTH IN THE TECHNICAL PROVISIONS.THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PRESSURE AT ALL TIMES. ALTHOUGH BE IT LOW, PRESSURE IN THE SYSTEM MUST BE MAINTAINED.
7. THE CONTRACTOR IS TO VERIFY THE ELEVATIONS OF ALL EXISTING UTILITIES AT POINTS OF TIE-IN PRIOR TO COMMENCING ANY NEW CONSTRUCTION, SHOULD ANY LOCATION OR ELEVATION DIFFER FROM THAT SHOWN ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER.
8. COORDINATION BETWEEN ALL PARTIES IS AN ESSENTIAL PART OF THE CONTRACT.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE PROJECT AND SITE CONDITIONS, AND TO WORK WITH WEATHER CONDITIONS AS THE PROJECT SITE MAY BE LOCATED IN A FLOOD PRONE AREA AND SUBJECT TO FLOODING AND ITS HAZARDS.
10. THE DESIGN ENGINEER MUST APPROVE , PRIOR TO CONSTRUCTION, ANY ALTERATION OR VARIANCE FROM THESE PLANS. ANY VARIATION FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER.
11. NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL CREATE, NOR SHALL BE CONSTRUED TO CREATE, ANY CONTRACTUAL RELATIONSHIP BETWEEN THE ENGINEER AND THE CONTRACTOR OR ANY SUBCONTRACTOR.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEMONSTRATE THE COMPLIANCE OF "EQUIVALENT" OR "EQUAL" ITEMS WITH THE CONSTRUCTION PLANS TO THE ENGINEER. EQUIVALENT ITEMS SHALL BE CONSIDERED BUT THEIR ACCEPTANCE IS NOT GUARANTEED.
13. ANY WORK/MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
14. AN APPROVED SET OF PLANS WITH THE PROJECT MANUAL, SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES.
15. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF WATER ENTERING THE TRENCHES AND SHALL KEEP THE TRENCHES WATER FREE UNTIL THE FACILITIES ARE IN PLACE AND SEALED AGAINST THE ENTRANCE OF WATER. USE OF A “TRASH” PUMP FOR REMOVAL OF NUISANCE WATER SHALL BE AT NO EXTRA COST AND SHALL NOT BE CONSIDERED DEWATERING. IN NO CASE SHALL WATER, EARTH, OR ANY FOREIGN MATERIALS BE ALLOWED TO ENTER THE WATER OR SEWER LINES

ENGINEERS NOTICE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE DRAWINGS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE DRAWINGS AND WE ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THEIR DEPICTED LOCATION ON THESE DRAWINGS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN, AND ALL OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE DRAWINGS BY VERIFICATION OF THEIR LOCATION IN THE FIELD PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE QUANTITIES ON THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY, AND ARE NOT TO BE USED FOR BIDDING OR CONSTRUCTION PURPOSES.

SAFETY NOTICE TO CONTRACTOR

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

AS-BUILT DRAWINGS:

THE PROJECT FOREMAN SHALL MAINTAIN A CLEAN SET OF AS-BUILT RECORD DRAWINGS SHOWING THE LOCATIONS, SWING TIES AND DIMENSIONS TO ALL FACILITIES CONSTRUCTED OR FOUND DURING THE COURSE OF THIS WORK. ALL ELEVATIONS SHALL BE MARKED ASB (AS-BUILT) WITH THE CORRECT VALUE INSERTED. DRAWINGS SHALL BE KEPT CURRENT IN RED PENCIL ON A DAILY BASIS IN A NEAT, LEGIBLE FASHION. A COPY OF THE AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE TRIBE UPON COMPLETION OF CONSTRUCTION.

PRODUCT OPTIONS/SUBSTITUTIONS:

"OR APPROVED EQUAL" IS ALWAYS IMPLIED AFTER A BRAND NAME, PATENTED PROCESS OR CATALOG NUMBER. ANY BRAND OR PROCESS APPROVED BY THE RESPONSIBLE REGISTERED PROFESSIONAL MAY BE SUBSTITUTED. THE ONLY EXCEPTION IS WHERE NO SUBSTITUTION IS SPECIFIED.

SCOPE OF WORK

SCOPE OF WORK INCLUDES MANHOLE REHABILITATION ACTIVITIES INCLUDING BUT NOT LIMITED TO THE MANHOLE CLEANING AND DEBRIS REMOVAL, SURFACE PREPARATION ACTIVITIES, INSTALLATION OF CORROSION PREVENTIVE COATING SYSTEM, MANHOLE RING & COVER ADJUSTMENT TO GRADE & REPLACEMENT, REPLACING BOLTS ON COVERS AND REHABILITATING MATING SURFACE, REBUILDING MANHOLE BENCHES & INVERTS, PVC WELDING OF EXISTING SHEET LINER, AND PVC SHEET LINER REMOVAL TO INSTALL COATING SYSTEM AS NEEDED.

DATE	REVISIONS	INIT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
MAGGIE E. ZIOLS
Exp: 06-30-26
CIVIL
No. 029581
5-2-26

INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING

WESTERN ARIZONA DISTRICT OFFICE
1553 WEST TODD DRIVE, SUITE 104
TEMPE, AZ 85283
(480) 592-0091

INDIAN HEALTH SERVICE 1955

NORTH & WEST COCOPAH
COCOPAH TRIBE OF ARIZONA
YUMA COUNTY, AZ
NOTES
PH 20-V64 / WA 02-25

DRAWN BY: C.GROOMS DATE: 05/25
CHECKED BY: M.ZIOLS DATE: 05/25
APPROVED BY: L.BERNASCONI DATE: 05/25

FILE NAME: N.COCOPAH-LEGEND
WA NUMBER: 02-25
PROJ ENG: JOEL GARCIA

Notes
SHEET 02 OF 07

NORTH COCOPAH

MANHOLE #	REHABILITATION TYPE	LEGEND
2, 3, 3A, 4, 5, 6, 7, 8, 10, 11, 12, 13	CLEAN, RESURFACE & COAT BENCH & INVERT (NO EXISTING LINER)	1
7, 8	REBUILD BENCH & INVERT	2
3	REPLACE FRAME & COVER	3
2, 4	REPLACE BOLTS & REHAB MATING SURFACE ON COVER	4
2, 3, 3A, 4, 5, 6, 7, 8, 10, 11, 12, 13	CLEAN, RESRUFACE & COAT RAW ADJUSTMENT (NO EXISTING LINER)	5
5, 6, 13	PVC WELDING (SEE NOTE 2)	6

NOTES:

1. ALL REHABILITATION SHALL INCLUDE CLEANING THE MANHOLE AND BENCH AND REMOVING ANY DEBRIS
2. IF EXISTING PVC LINER IS DETERMINED TO BE UN-REPAIRABLE USING MANUFACTURER RECOMMENDATIONS FOR THE REPAIR, THE CONTRACTOR SHALL REMOVE THE LINER, CLEAN THE MANHOLE AND BENCH, REMOVE CORRODED/ DETERIORATED MATERIALS, RESURFACE AND OTHERWISE PREPARE FOR ONE OF THE APPROVED COATING SYSTEMS
3. CONTRACTOR SHALL SET FLOW THROUGH PLUGS AND MAINTAIN FLOW DURING ALL WORK OPERATIONS ON BENCH AREAS
4. CONTRACTOR SHALL COAT ENTIRE MANHOLE BENCH INCLUDING CHANNEL AND INVERT

0 100 200 FEET

LIFT STATION

MH 5N
12'11" DEPTH
6 5 1

MH 6N
13'2" DEPTH
1 5 6

MH 13N
13' DEPTH
1 5 6

MH 4AN
11'7" DEPTH
NO REPAIRS

MH 12N
13'3" DEPTH
1 5

MH 3BN
8'6" DEPTH
NO REPAIRS

MH 3AN
8'6" DEPTH
5 1

MH 4N
11' DEPTH
5 4 1

MH 3N
4'6" DEPTH
5 3 1

MH 11N
12'9" DEPTH
1 5

MH 7N
10'10" DEPTH
5 2 1

MH 2N
3'7" DEPTH
5 4 1

MH 10N
10'8" DEPTH
1 5

MH 1N
CO

MH 8N
9'8" DEPTH
5 2 1

MH 9N
6'5" DEPTH
NO REPAIRS

CHAPAY STREET

CHAPAY LANE

QUAIL RUN LOOP

DATE	REVISIONS	INIT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
MAGGIE E. ZIOLS
Exp: 06-30-26
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No. 029581
5-2-26

INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING

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INDIAN HEALTH SERVICE 1955

NORTH & WEST COCOPAH

COCOPAH TRIBE OF ARIZONA
YUMA COUNTY, AZ
NORTH COCOPAH
PH 20-V64 / WA 02-25

DRAWN BY: C.GROOMS DATE: 05/25
CHECKED BY: M.ZIOLS DATE: 05/25
APPROVED BY: L.BERNASCONI DATE: 05/25

FILE NAME: N COCOPAH-PPP
WA NUMBER: 02-25
PROJ ENG: JOEL GARCIA

North Cocopah
SHEET 03 OF 07

WEST COCOPAH SOUTH SECTION

NOTES:

1. ALL REHABILITATION SHALL INCLUDE CLEANING THE MANHOLE AND BENCH AND REMOVING ANY DEBRIS
2. IF EXISTING PVC LINER IS DETERMINED TO BE UN-REPAIRABLE USING MANUFACTURER RECOMMENDATIONS FOR THE REPAIR, THE CONTRACTOR SHALL REMOVE THE LINER, CLEAN THE MANHOLE AND BENCH, REMOVE CORRODED/ DETERIORATED MATERIALS, RESURFACE AND OTHERWISE PREPARE FOR ONE OF THE APPROVED COATING SYSTEMS
3. CONTRACTOR SHALL SET FLOW THROUGH PLUGS AND MAINTAIN FLOW DURING ALL WORK OPERATIONS ON BENCH AREAS
4. CONTRACTOR SHALL COAT ENTIRE MANHOLE BENCH INCLUDING CHANNEL AND INVERT
5. * APPROXIMATE LOCATION

MANHOLE #	REHABILITATION TYPE	LEGEND
2A, 3, 7, 10, 17, 18, 19, 25, 27, 28, 29, 30, 31, 32, 37, 38, 39, 40, 42-49	CLEAN, RESURFACE & COAT BENCH & INVERT (NO EXISTING LINER)	1
3, 7, 29	REBUILD BENCH & INVERT	2
2, 2A, 3, 6, 14	REPLACE FRAME & COVER	3
15, 25, 40, 46	REPLACE BOLTS & REHAB MATING SURFACE ON COVER	4
2, 2A, 5, 21, 29, 32, 39, 42-49	CLEAN, RESURFACE & COAT RAW ADJUSTMENT (NO EXISTING LINER)	5
2, 2A, 3, 5, 6, 8, 10, 14, 15, 18, 19, 20, 24, 28, 30, 31, 37, 38, 39, 40, 44	PVC WELDING (SEE NOTE 2)	6
5,6, 8, 14, 15, 16, 21	REMOVE PVC SHEET LINER ON BENCH & INVERT, CLEAN, RESURFACE & COAT	7
7, 10, 14	REMOVE PVC SHEET LINER ON ADJUSTMENTS, RESURFACE & COAT	8
2A, 12	RAISE FRAME & COVER TO GRADE (UP TO 6")	9

MH 12W 15'7" DEPTH — 9 — HIT WITH PLOW-DAMAGED

FORCEMAIN TO LAGOONS FROM LIFTSTATION

MH 11W * 14'8" DEPTH — NO REPAIRS

MH 10W * 11'9" DEPTH — 1 6 8

MH 2AW 5'6" DEPTH — 9 6 5 3 1

MH 3W * 5'5" DEPTH — 1 2 3 6

MH 6W 6'3" DEPTH — 3 6 7

MH 7W 9'2" DEPTH — 1 2 8

MH 8W 9'3" DEPTH — 6 7

CO *

MH 2W 5'6" DEPTH — 6 5 3

MH 5W * 6'4" DEPTH — 5 6 7

MH 1W CO

MH 4W CO *

FARM ROAD

VETERANS PL

0 100 200 FEET

DATE | REVISIONS | INIT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
MAGGIE E. ZIOLS
Exp: 06-30-26
CIVIL
No. 029581
5-2-26

INDIAN HEALTH SERVICE
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INDIAN HEALTH SERVICE 1955

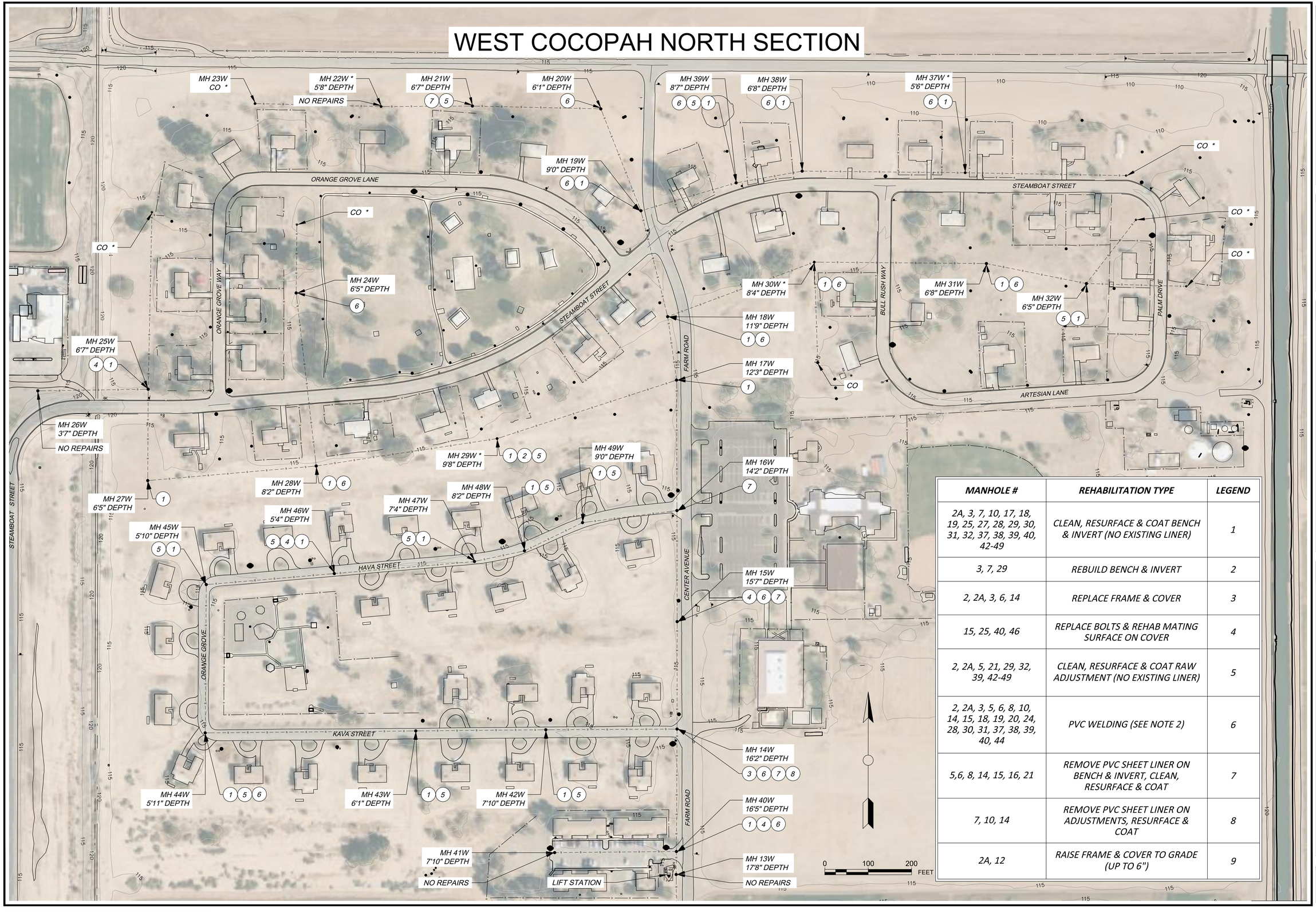
NORTH & WEST COCOPAH
COCOPAH TRIBE OF ARIZONA
YUMA COUNTY, AZ
WEST COCOPAH SOUTH
PH 20-V64 / WA 02-25

DRAWN BY: C.GROOMS DATE: 05/25
CHECKED BY: M.ZIOLS DATE: 05/25
APPROVED BY: L.BERNASCONI DATE: 05/25

FILE NAME: W.COCOPAH-PPP
WA NUMBER: 02-25
PROJ ENG: JOEL GARCIA

South Section
SHEET 04 OF 07

WEST COCOPAH NORTH SECTION



MANHOLE #	REHABILITATION TYPE	LEGEND
2A, 3, 7, 10, 17, 18, 19, 25, 27, 28, 29, 30, 31, 32, 37, 38, 39, 40, 42-49	CLEAN, RESURFACE & COAT BENCH & INVERT (NO EXISTING LINER)	1
3, 7, 29	REBUILD BENCH & INVERT	2
2, 2A, 3, 6, 14	REPLACE FRAME & COVER	3
15, 25, 40, 46	REPLACE BOLTS & REHAB MATING SURFACE ON COVER	4
2, 2A, 5, 21, 29, 32, 39, 42-49	CLEAN, RESURFACE & COAT RAW ADJUSTMENT (NO EXISTING LINER)	5
2, 2A, 3, 5, 6, 8, 10, 14, 15, 18, 19, 20, 24, 28, 30, 31, 37, 38, 39, 40, 44	PVC WELDING (SEE NOTE 2)	6
5,6, 8, 14, 15, 16, 21	REMOVE PVC SHEET LINER ON BENCH & INVERT, CLEAN, RESURFACE & COAT	7
7, 10, 14	REMOVE PVC SHEET LINER ON ADJUSTMENTS, RESURFACE & COAT	8
2A, 12	RAISE FRAME & COVER TO GRADE (UP TO 6")	9

DATE	REVISIONS	INIT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
MAGGIE E. ZIOLS
Exp: 06-30-26
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DRAWN BY: C.GROOMS DATE: 05/25
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FILE NAME: W.COCOPAH-PPF
WA NUMBER: 02-25
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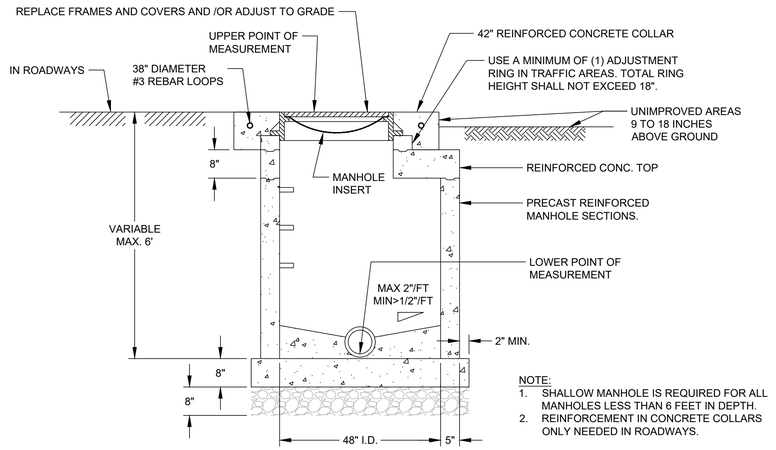
NORTH & WEST COCOPAH

COCOPAH TRIBE OF ARIZONA
YUMA COUNTY, AZ
WEST COCOPAH NORTH
PH 20-V64 / WA 02-25

North Section
SHEET 05 OF 07

NOTES:

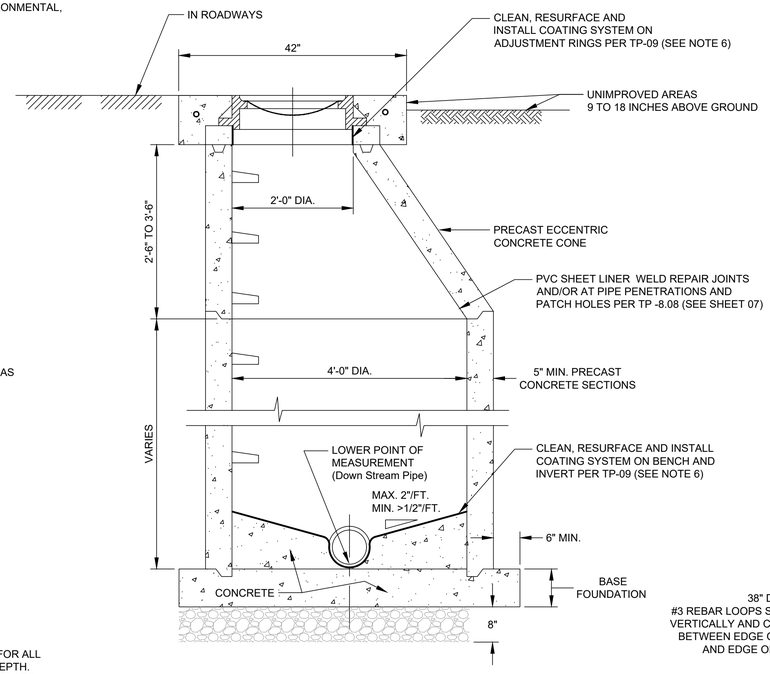
1. BID ITEMS ARE INCLUDED FOR COATING EXISTING 4-FOOT DIAMETER MANHOLES WITH APPROVED CORROSION PROTECTIVE COATING SYSTEM PER TP 08.06. SECTIONS THAT REQUIRE PVC SHEET LINER REMOVAL PRIOR TO COATING ARE INDICATED IN THE BID SCHEDULE.
2. CONTRACTOR SHALL PROPERLY PREPARE SURFACE PRIOR TO COATING SYSTEM IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE TECHNICAL PROVISIONS. ALL MATERIAL REMOVED DURING THE PREPARATORY WORK INCLUDING PRESSURE CLEANING SHALL BE REMOVED FROM THE MANHOLE AND DISPOSED OF OFFSITE - NO MATERIAL SHALL BE ALLOWED TO ENTER THE SEWERS. IN ADDITION, NO CHEMICALS USED FOR CLEANING OR OTHER OPERATIONS SHALL BE ALLOWED TO ENTER THE SEWER.
3. CONTRACTOR SHALL PROVIDE BYPASS PUMPING AS REQUIRED WHILE REHABILITATING MANHOLES.BYPASS PUMPING MUST BE PERFORMED WHEN COATING THE INVERT CHANNELS. NO MATERIAL SHALL BE ALLOWED TO ENTER THE SEWERS.
4. PROVIDE ADDITIONAL CEMENTITIOUS MATERIAL AS NECESSARY TO PROVIDE A MINIMUM 2" FALL FROM THE MANHOLE WALL TO THE INVERT CHANNEL. ANY AND ALL ADDITIONAL CEMENTITIOUS MATERIAL REQUIRED TO PROVIDE THE 2" FALL SHALL BE INCIDENTAL TO THE WORK AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROVED COATING SYSTEM. PROVIDE CHANNEL IN BENCHING FOR SEWERS ENTERING MANHOLES ABOVE BENCHING CHANNEL TO PROVIDE SMOOTH TRANSITION TO MAIN INVERT CHANNEL.
5. CONTRACTOR SHALL ENSURE A CONSTANT SLOPE BETWEEN INLET AND OUTLET SEWERS WHEN SPECIFIED /REQUIRED BY THE ENGINEER. PROVIDE ADDITIONAL MATERIAL AS NECESSARY TO PROVIDE A UNIFORM INVERT CHANNEL THROUGH THE MANHOLE. THE WIDTH OF THE UNIFORM CHANNEL SHALL BE EQUAL TO THE INCOMING AND OUTGOING PIPE DIAMETERS. THE FINISHED CHANNEL SHALL BE SMOOTH AND FREE OF BURRS THAT WILL CATCH TOILET PAPER, DEBRIS, RAGS, ETC. SEE NOTE 8.
6. THE SURFACE COATING SHALL BE CAREFULLY BUTTED AGAINST AND THEN FEATHERED OVER (2- INCHES MINIMUM) WALL/BENCH INTERFACES AND ANY PVC LINERS THAT EXIST ON MANHOLE SHAFTS, OR PIPES PASSING THROUGH OR CONNECTING TO THE MANHOLES TO CREATE A SMOOTH TRANSITION OF A CONTINUOUS CORROSION BARRIER.
7. THE ENGINEER WILL SPECIFY MANHOLE BENCHES AND INVERT CHANNELS THAT ARE REQUIRED TO BE RE-BUILT. RE-BUILDING MAY BE REQUIRED IF THERE IS NO BENCHING, AND NO DEFINED INVERT CHANNEL OR IF THE EXISTING INVERT CHANNEL IS MORE THAN 6 INCHES WIDER THAN THE INCOMING AND OUTGOING PIPE DIAMETERS. EXISTING INVERT CHANNELS THAT ARE LESS THAN 6 INCHES WIDER THAN THE INCOMING/OUTGOING PIPE DIAMETERS SHALL BE NARROWED TO PROVIDE A UNIFORM CHANNEL PER NOTE 6 AS PART OF THE MANHOLE REHABILITATION WORK AND AT NO ADDITIONAL COST. BENCHES AND INVERTS SHALL BE IN ACCORDANCE WITH CMUD STANDARD SPECIFICATIONS AND DETAILS. SEE NOTE 5.
8. THE REQUIRED TOTAL CURED THICKNESS FOR THE SURFACE COATING LAYER (NOT INCLUDING THE THICKNESSES OF ANY UNDERLAYMENT OR PRIMING LAYERS) FOR ALL COATING SYSTEMS SHALL BE 125 MILS, OR 1/8-INCH.
9. BID ITEMS ARE INCLUDED FOR REPLACING FRAME AND COVER, ADJUSTING FRAME AND COVER TO GRADE, AND/OR REPLACING BOLTS ON COVER AND REHABILITATING THE MATING SURFACE.
10. BID ITEMS ARE INCLUDED TO PVC WELD REPAIR EXISTING PVC SHEET LINER AT JOINTS, PIPE PENETRATIONS AND/OR PATCH HOLES.
11. MANHOLE INSERTS WITH LIFT STRAP SHALL BE INSTALLED ON ALL MANHOLE FRAME AND COVER REHABILITATIONS (PARSONS ENVIRONMENTAL, SEALING SYSTEMS IN., OR EQUAL.).



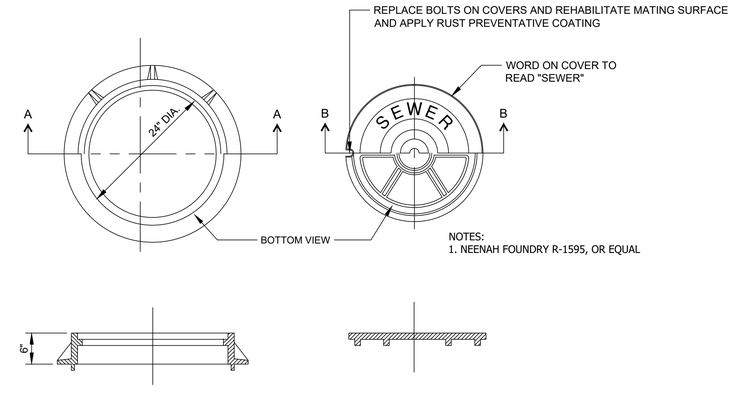
NOTE:
1. SHALLOW MANHOLE IS REQUIRED FOR ALL MANHOLES LESS THAN 6 FEET IN DEPTH.
2. REINFORCEMENT IN CONCRETE COLLARS ONLY NEEDED IN ROADWAYS.

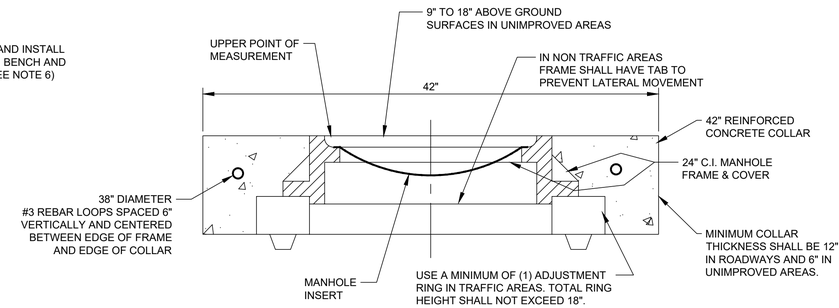
6A SHALLOW MANHOLE

Scale: N.T.S.



NOTES:
1) WATERSTOP GASKET GROUTED TO MANHOLE WALL FOR PIPE CONNECTIONS.
2) GROUT INSIDE & OUTSIDE JOINTS OF MANHOLES. TAPING OUTSIDE JOINTS WITH VISCOUS ELASTIC TAPE, SUCH AS VISCOTAQ OR APPROVED EQUAL, SHALL BE CONSIDERED BY OWNER AS A REPLACEMENT TO GROUTING.
3) REINFORCEMENT IN CONCRETE COLLARS ONLY NEEDED IN ROADWAYS.
4) MH DEPTH >13 FT REQUIRES A 12 IN MIN BASE FOUNDATION, MH DEPTH >20 FT REQUIRES STRUCTURAL CALCULATIONS FOR BASE FOUNDATION THICKNESS.





MANHOLE FRAME & COVER DETAIL

6B MANHOLE & MANHOLE FRAME & COVER

Scale: N.T.S.

DATE	REVISIONS	INIT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
MAGGIE E. ZIOLS
Exp: 06-30-26
CIVIL
No. 029581
5-2-26

INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING

WESTERN ARIZONA DISTRICT OFFICE
1553 WEST TODD DRIVE, SUITE 104
TEMPE, AZ 85283
(480) 592-0091

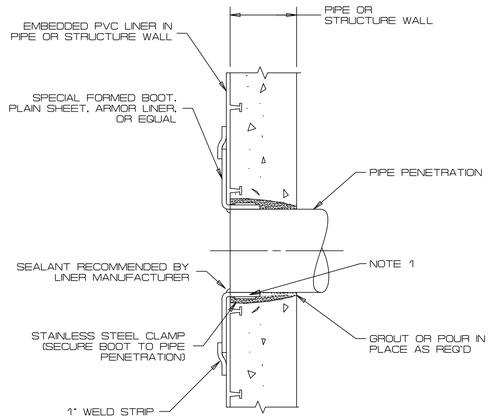
INDIAN HEALTH SERVICE 1955

NORTH & WEST COCOPAH
COCOPAH TRIBE OF ARIZONA
YUMA COUNTY, AZ
DETAILS I
PH 20-V64 / WA 02-25

DRAWN BY: C.GROOMS DATE: 05/25
CHECKED BY: M.ZIOLS DATE: 05/25
APPROVED BY: L.BERNASCONI DATE: 05/25

FILE NAME: N.COCOPAH-DETAIL
WA NUMBER: 02-25
PROJ ENG: JOEL GARCIA

Details I
SHEET 06 OF 07

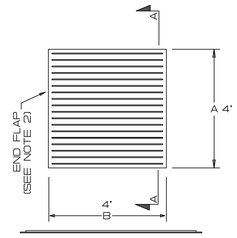


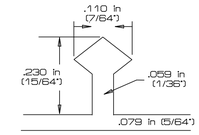
NOTES:
1) FOR REHABILITATION ON 24" AND ABOVE, AN 1/8" WIDE X 1-1/2" DEEP GROOVE CAN BE SAW CUT AROUND PIPE AND LINER SHEET CAN BE PUSHED INTO GROOVE ONLY IF ORIGINAL LINER ANCHORAGE IS WITHIN 2" OF THE CIRCUMFERENCE OF THE PENETRATION. SMALLER PENETRATIONS MUST BE CHIPPED OUT AND CLAMP MUST BE APPLIED

SEALING PENETRATIONS THRU LINED WALLS TYPE 2 (AMERLOK)
NTS

ARMORLOK PROTECTIVE LININGS	
SEALING PENETRATIONS THRU LINED WALLS TYPE 2	
	8.A

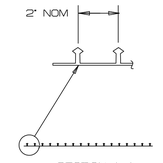
NOTES:
1) STANDARD SHEETS ARE 4'X4'
2) END FLAPS ARE FABRICATED BY REMOVING LOCKING EXTENSIONS TO WITHIN 0.035" OF THE SURFACE ON THE MAIN SHEET. LENGTH OF FLAP DEPEND ON HOW SHEETS WILL BE USED





MINI D KEY

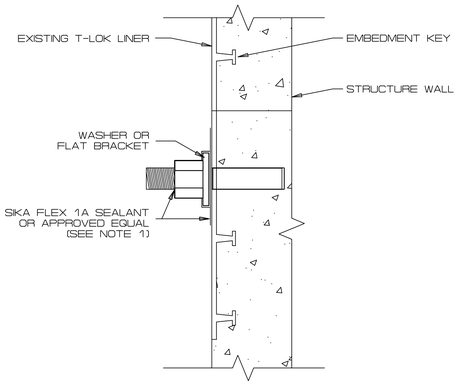
ALL DIMENSIONS ARE NOMINAL AND SUBJECT TO MANUFACTURING TOLERANCES THAT DO NOT AFFECT THE MINIMUM PERFORMANCE SPECIFICATIONS



SECTION A-A

(PER ARMORLOK PROTECTIVE COATINGS, OR EQUAL)

ARMORLOK PROTECTIVE LININGS	
REHABILITATION MINI D KEYED LINER SHEET	
	8.B

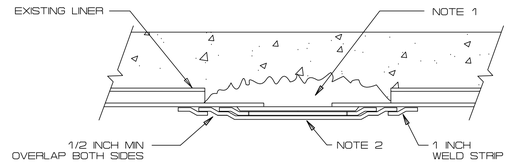


NOTES:
1) APPLY GENEROUS AMOUNT OF SEALANT TO BASE AND ANCHOR. INSTALL WASHER/BRACKET AND NUT WHILE SEALANT IS WET. UNIFORMLY WORK EXCESS AROUND NUT AND WASHER.

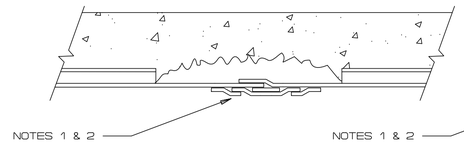
(PER ARMORLOK PROTECTIVE COATINGS, OR EQUAL)

ARMORLOK PROTECTIVE LININGS	
HARDWARE PENETRATIONS	
	8.C

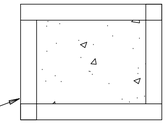
J-1 REHAB



J-2 REHAB



PATCH



NOTES:
1) REMOVE DAMAGED LINER AND SUBSTRATE AND REPAIR IF REQUIRED BY ENGINEER
2) LIGHTLY ABRADE EXISTING LINER TO THE LIMITS OF THE NEW ARMORLOK PLAIN SHEET OR EQUAL TO REMOVE CONTAMINANTS. INSTALL PLAIN SHEET OVER REPAIR AREA AND WELD TO MEET MANUFACTURER REQUIREMENTS. MAXIMUM SIZE 12 INCH TO ORGINAL LINER ANCHORAGE. APPLY SHIELDLOK EPOXY MASTIC SYSTEM . OR EQUAL. TO LARGER AREAS PER MANUFACTURERS REQUIREMENTS

(PER ARMORLOK PROTECTIVE COATINGS, OR EQUAL)

ARMORLOK PROTECTIVE LININGS	
REHAB JOINTS	
	8.D

DATE	REVISIONS	INIT.

PROFESSIONAL ENGINEER - STATE OF NEVADA
MAGGIE E. ZIOLS
Exp: 06-30-26
CIVIL
No. 029581
5-2-26

INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING

WESTERN ARIZONA DISTRICT OFFICE
1553 WEST TODD DRIVE, SUITE 104
TEMPE, AZ 85283
(480) 592-0091

INDIAN HEALTH SERVICE 1955

NORTH & WEST COCOPAH
COCOPAH TRIBE OF ARIZONA
YUMA COUNTY, AZ
DETAILS II
PH 20-V64 / WA 02-25

DRAWN BY: C.GROOMS DATE: 05/25
CHECKED BY: M.ZIOLS DATE: 05/25
APPROVED BY: L.BERNASCONI DATE: 05/25

FILE NAME: N.COCOPAH-DETAIL
WA NUMBER: 02-25
PROJ ENG: JOEL GARCIA

Details II
SHEET 07 OF 07

EXHIBIT A: COCOPAH NORTH & WEST MANHOLE INSPECTION & RECOMMENDATION REPORT – 2018

COCOPAH NORTH
COCOPAH WEST

Manhole inspection and recommendations

Joe Nuciforo Jr
JPCI Services Inc.
4702 E. Virginia Rd.
Mesa Az. 85215
(480)986-1212

J P C I SERVICES

Joseph Painting Company, Inc.
4702 E. Virginia Street • Mesa, Arizona 85215-9101
(480) 986-1212 • Fax (480) 380-4461
License No. ROC242450 AE AZ • ROC199485 AE AZ • ROC218119 A AZ
ROC107144 L-34 AZ • ROC197873 AE AZ • 280286 C-33 & A CA

February 19, 2018

Cocopah manhole inspections North and West

Re: Overview
NORTH COCOPAH

The manholes in the North Cocopah collection system are in relatively good condition. There is a large amount of debris (dirt from construction) in manholes 2N to Manhole 6N . This section should be cleaned as soon as possible due to the fact that the debris is obstructing the flow of the waste water. In all, the manholes are in good condition with minor defects in the PVC liner. All of the benched and adjustment rings in all the manholes need to be cleaned and recoated with a coating suitable for sewer application. At this time there is no immediate visible danger of structural deficiencies in the manholes inspected. A recommendation of rehabilitation of the manhole benches and adjustment rings should happen in the next 3 to 5 years.

Joe Nuciforo Jr.
C.O.O.
JPCI Services
480-220-1231



Cocopah West

In the Cocopah West collection system the manhole structures look to be in good condition with no visible structural deficiencies. There are several manholes with PVC liner in the invert of the manhole that have bulged up and are obstructing the flow of waste water. These manholes should be addressed by removing the PVC from the invert and the bench areas and replacing it with a suitable coating for waste water application. This should happen in the next 1 to 2 years. The obstructions will only get worse until the pipes are completely blocked.

All of the remaining manholes have issues with the benches and inverts (peeling and deterioration). It is recommended that they all have rehabilitation done to them in the next 3 to 5 years.

RING AND COVERS

The ring and covers inspected in this report are suspect in nature. The tribe should contact Neena Foundry and verify that they are traffic load rated. Bolts that are missing should be replaced and cleaning of the rust out of the mating surface should happen to insure proper seating of the lid in the ring.



Lids in question



Standard lid



Possibly good

Cocopah Manhole Inspections

North Cocopah

M.H #	Depth	Diam.		Ring and Cover		P.V.C. Joint Repair	Coat Ajustments	Bench Rehabilitation needed
				Relace	Bolts missing			
1N	C.O.	C.O.		C.O.		C.O.	C.O.	C.O.
2N	3'7"		4		X	No action	Yes 4 Inches	Clean and recoat
3N	4'6"		4	X		No action	Yes 1 Inch	Clean and recoat
3aN	8'6"		4	No action		No action	Yes 1 Inch	Clean and recoat
4N	11'		4		X	No action	Yes 1 Inch	Clean and recoat
5N	12'11"		4	No action		2 joints and 1 pipe	Yes	Clean and recoat
6N	13'2"		4	No action		3 joints & 4 holes	Yes 4 Inches	Clean and recoat
7N	10'10"		4	No action		No action	Yes 4 inches	Clean and recoat
8N	9'8"		4	No action		No action	Yes 1 Inch	Clean and recoat
9N	6'5"		4	No action		No action	Yes 1 Inch	Clean and recoat
10N	10'8"		4	No action		No action	Yes 1 Inch	Clean and recoat
11N	12'9"		4	No action		No action	Yes 1 Inch	Clean and recoat
12N	13'3"		4	No action		No action	Yes 4 Inches	Clean and recoat
13N	13'		4	No action		2 joints	Yes 4 Inches	Clean and recoat

West Cocopah

M.H #	Depth	Diam.		Ring and Cover		P.V.C. shaft Joint Repair	Ajustments repair	Bench Rehabilitation recommendation
				Relace	Bolts missing			
1W	C.O.	C.O.						
2W	5'6"		4	Replace		1 Joint	Yes 1"	PVC Lined No
2aW	5'6"		4	Raise 6"		2 joints	Yes 7"	Clean and recoat
3W	5'5"		4	No action		See Photos	PVC repair 4-30" joints	Clean and recoat
4W	C.O.	C.O.						
5W	6'4"		4	No action		3 joints	yes 1"	Remove PVC and coat
6W	6'3"		4	No action			PCV repair 2-30" joints	Remove PVC and coat
7W	9'2"		4		broken		yes 4"	Clean and recoat
8W	9'3"		4	No action			PVC repair 1-30" joint	Remove PVC and coat
10W	11'9"		4	No action		1 joint	Remove PVC & coat	Clean and recoat
11W	14'8"		4	No action		No action	yes	No action

12W	15'7"		4	No action		No action	No action	No action
13W	17'8"		4	No action		No action	No action	Repair PVC around pipes
14W	16'2"		4		broken	Repair step Holes	Remove PVC & coat	Remove PVC and coat
15W	15'7"		4		Missing	2'X2'PVC wall patch	Remove PVC & coat	Remove PVC and coat
16W	14'2"		4	No action		No action	Yes	Remove PVC and coat
17W	12'3"		4	No action	.	No action	Yes	Clean and recoat
18W	11'9"		4	No action		3 joints	Yes	Clean and recoat
19W	9'		4	No action		2 joints	PVC repair 1-30" joint	Clean and recoat
20W	6'1"		4	No action		No action	PVC repair 1-30" joint	No action
21W	6'7"		4	No action		No action	Yes 1"	Remove PVC and coat
22W	5'8"		4	No action		No action	yes 1"	No action
23W	C.O.	C.O.						
24W	6'5"		4	No action			Repair 2-30" pvc joints	Repair 2 PVC strips
25w	6'7"		4		Missing	No Action	No action	Clean and recoat
26W	3'7"		4		Missing	No Action	No action	no action
27W	6'5"		4	No action		No Action	No action	Clean and recoat
28W	8'2"		4	No action		No Action	Repair 2-30" pvc joints	Clean and recoat
29W	9'8"		4	No action		No Action	yes 4"	Rebuild 6" and coat
30W	8'4"		4	No action		1 joint	Repair 2-30" pvc joints	Clean and recoat
31W	6'8"		4	No action		2 joints	No action	Clean and recoat
32W	6'5"		4	No action		No Action	yes 4"	Clean and recoat
37W	5'6"		4		Missing	No Action	Repair 2-30" pvc joints	Clean and recoat
38W	6'8"		4	No action		No Action	Repair 2-30" pvc joints	Clean and recoat
39W	8'7"		4	No action		2 joints	yes 1"	Clean and recoat
40W	16'5"		4		Missing	1 Repair around pipe	Repair 2-30" pvc joints	Clean and recoat
41W	7'10"		4		Missing	No Action	No action	no action
42W	7'10"		4	No action		No Action	yes 4"	Clean and recoat
43W	6'1"		4	No action		No Action	yes 3"	Clean and recoat
44W	5'11"		4	No action		1 vertical joint in cone	yes 2"	Clean and recoat
45W	5'10"		4	No action		No Action	yes 6"	Clean and recoat
46W	5'4"		4		Missing	No Action	yes 6"	Clean and recoat
47W	7'4"		4	No action		No Action	yes 4"	Clean and recoat
48W	8'2"		4	No action		No Action	yes 4"	Clean and recoat
49W	9'		4	No action		No Action	Yes 8"	Clean and recoat

Cocopah North

Field observations

MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Joe

☒ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets): North of W. Lower Rd on Chapay Dr

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 1 N

MANHOLE / LANE LOCATION: South Bound

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☒ PVC LINED
- ☐ OTHER

DIAMETER: 60"

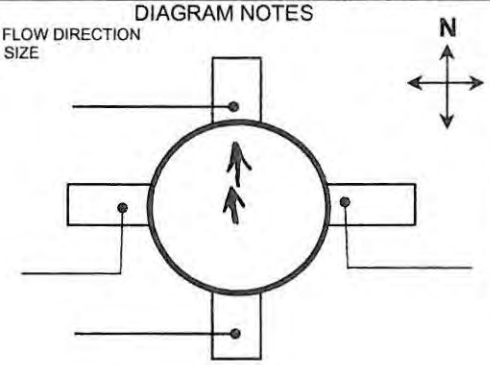
DEPTH: C.O.

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☒ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR 35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

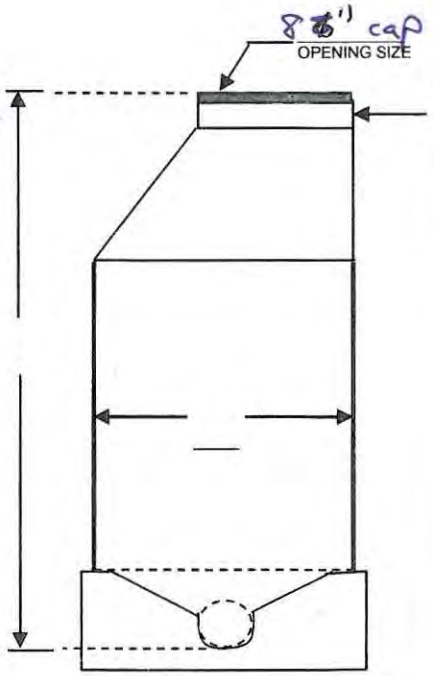
Heavy Deterioration / Debris

MH ACCESS: Paved

SURFACE TYPE:

STEPS:

ADDITIONAL NOTES: clean out



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE


EAST JORDAN IRON WORKS
SEWER
MADE IN USA
NT

MANHOLE INSPECTION REVIEW SHEET

DATE: 02.12.2015 Monday

INSPECTOR: JOC

[X] JPCI Services (480)986-1212
[ ] Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets): North of West Level Rd on Chapay Dr

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Deven

Traffic Control: Officer / Heavy / Medium / (Light) / None

QUARTER SEC. / MH #: 2N

MANHOLE / LANE LOCATION: Chapay Dr.

MANHOLE:

TYPE:
- [x] STANDARD
- [ ] DROP
- [ ] LIFT STATION
- [ ] WET WELL
- [ ]

MATERIAL:
- [ ] BRICK
- [x] PRE-CAST
- [ ] COATED
- [x] PVC LINED
- [ ] OTHER

DIAMETER: 4'

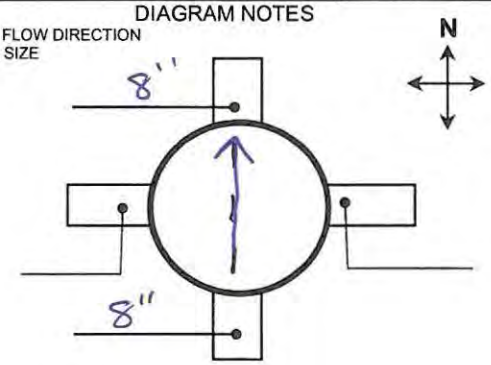
DEPTH: 3'7"

LONGITUDE: N 32°43.798

LATITUDE: W114°42.369

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- [x] DEBRIS
- [x] DETERIORATED
- [ ] MISALIGNED
- [ ] COATED
- [ ]

FRAME & COVER:
- [ ] WELDED
- [ ] RAISE
- [ ] LOWER
- [x] BOLTED (missing)
- [ ] REPLACE

SEWER MAIN LINE:
- [ ] VCP
- [ ] RCP
- [ ] LINED
- [ ] DETERIORATED
- [ ] PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Heavy Deterioration / Debris on Bench walls in good condition Bolts missing from Lid.

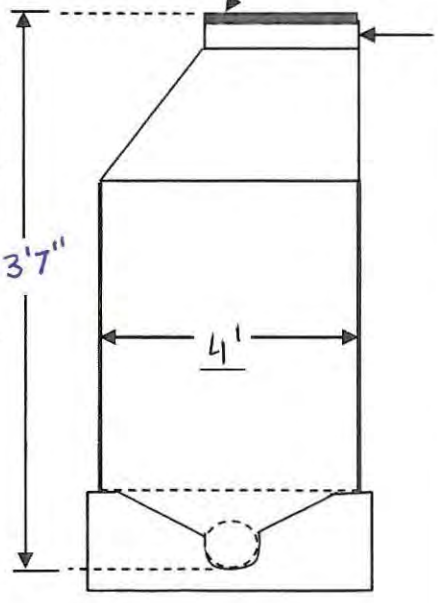
MH ACCESS: Paved

SURFACE TYPE:

Ø # STEPS

ADDITIONAL NOTES

NT 26" OPENING SIZE



SPARK TEST

PULL TEST

CONDITION OF INVERT

HYDRAULIC OBSERVATION:
- [ ] SURCHARGE:
- [ ] WATER INFILTRATION:
- [ ] OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

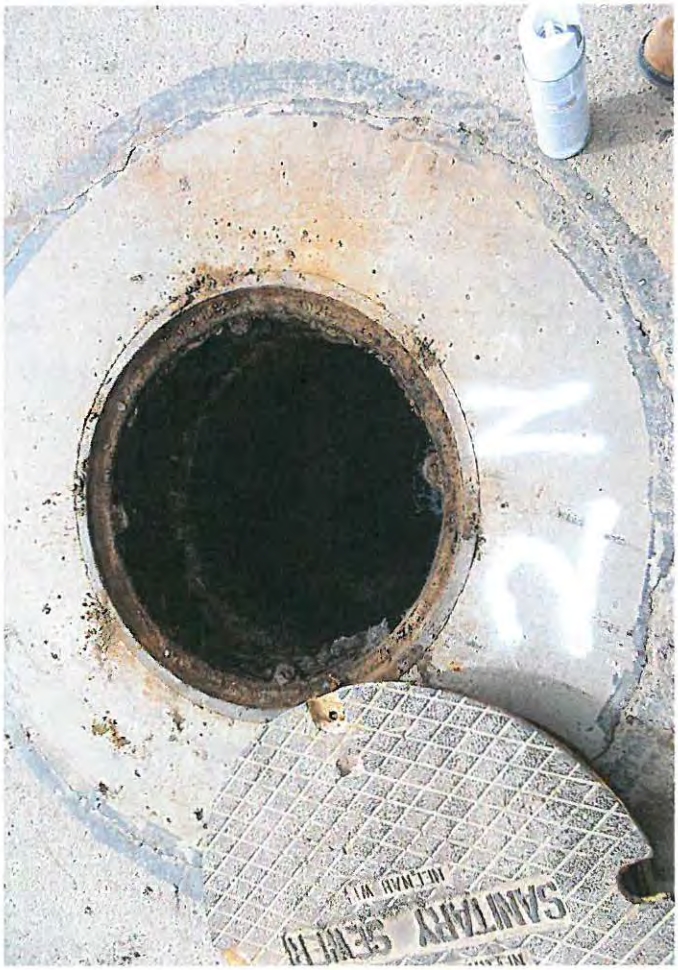
INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY SEWER



MANHOLE INSPECTION REVIEW SHEET

DATE:

INSPECTOR: Joe N.

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer, Heavy, Medium, (Light), None

QUARTER SEC. / MH #: 3N

MANHOLE / LANE LOCATION: Chapay Dr & chapay st (corner)

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☑ 4 way

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☑ COATED Bench
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

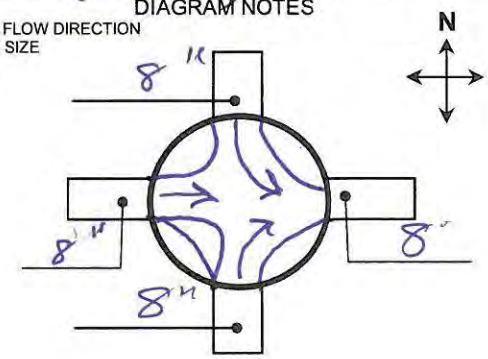
DEPTH: 4'6"

LONGITUDE: 32°43.837

LATITUDE: 114° 42.371

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED m
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR 35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Debris Medium Deterioration on Bench coating is Peeling

PVC Lining in good condition.

Lid is Cracked/Broken

MH ACCESS:

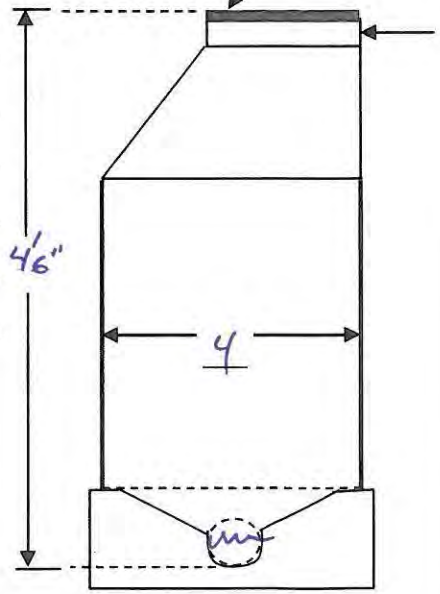
SURFACE TYPE:

Substandard: 24" NT

OPENING SIZE

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

PULL TEST

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Joe H

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 3A N

MANHOLE / LANE LOCATION: Chapay (6576)

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 8'5"

LONGITUDE:

LATITUDE:

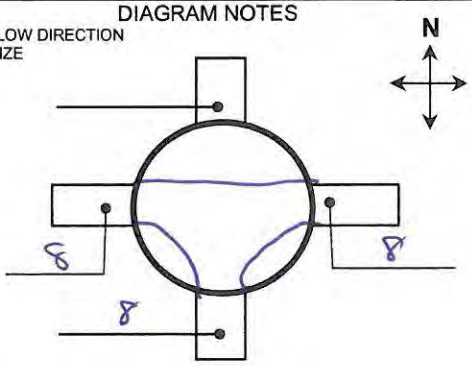
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in curb needs cleaned & Bench coated.

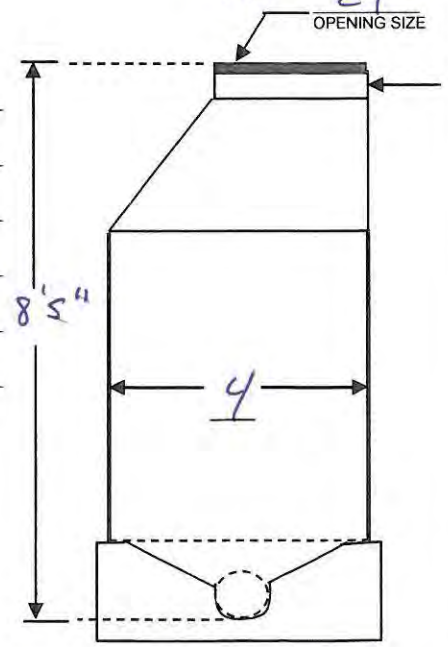
MH ACCESS: Paved

SURFACE TYPE:

0 # STEPS

ADDITIONAL NOTES

NT 24 OPENING SIZE



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

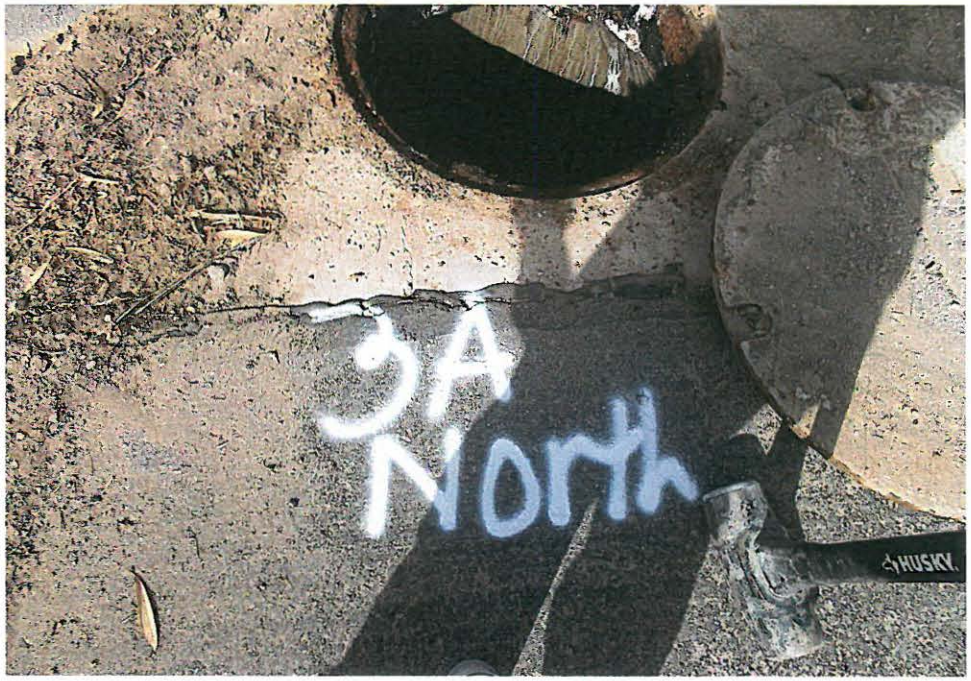
INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Heavy DeBris Heavy Deterioration

ADDITIONAL NOTES ON REVERSE OF PAGE




2A
North
HUSKY





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Joe N.

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 4 N

MANHOLE / LANE LOCATION: Chapay St.

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☑ COATED Bench
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4'

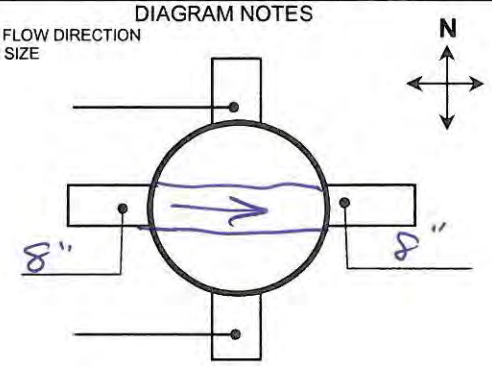
DEPTH:

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

Bench is slightly Deteriorated

Heavy DeBris. 14" Peep

Construction

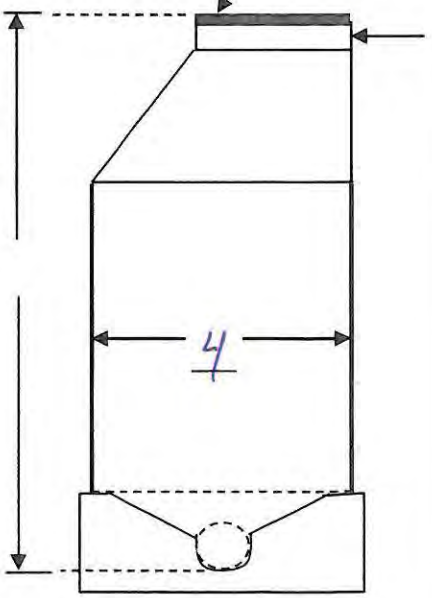
MH ACCESS:

SURFACE TYPE: Non Traffic NT 24

STEPS

ADDITIONAL NOTES

PVC Has 2 small Blisters in shaft.



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE








4 N

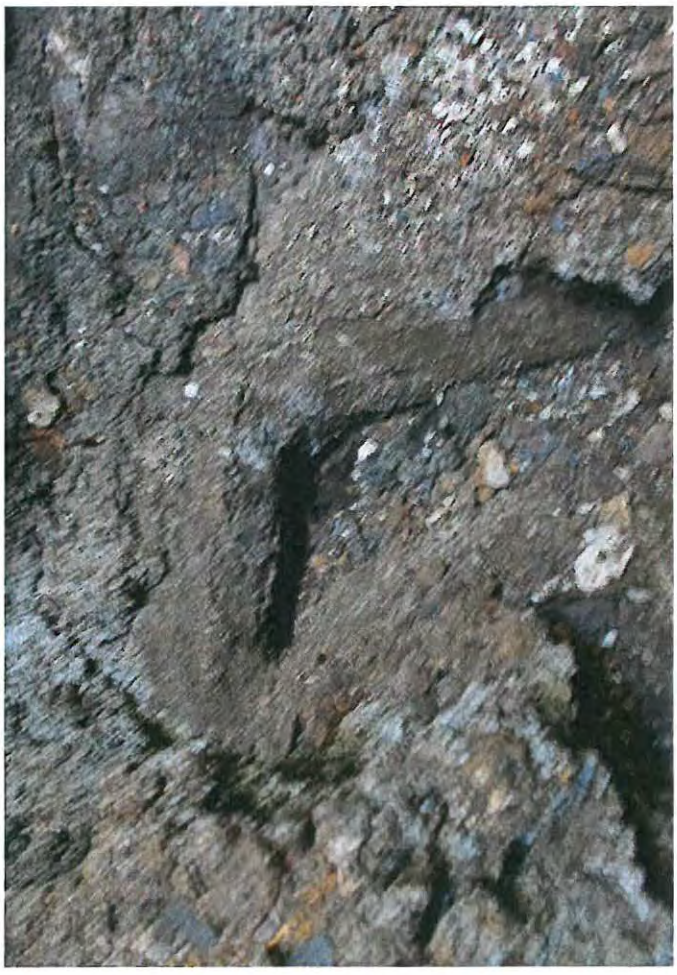












MANHOLE INSPECTION REVIEW SHEET

DATE:

INSPECTOR:

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 5N

MANHOLE / LANE LOCATION

MANHOLE:

TYPE:
- ☐ STANDARD
- ☑ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

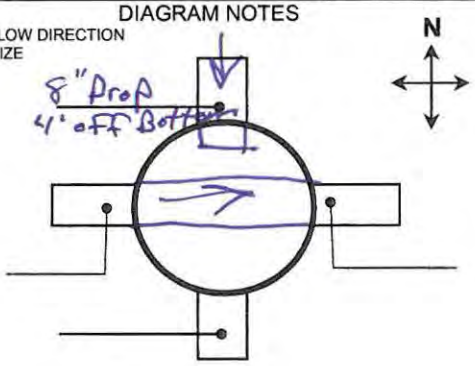
DIAMETER	DEPTH
4'	12'11"

LONGITUDE

LATITUDE

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED m
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

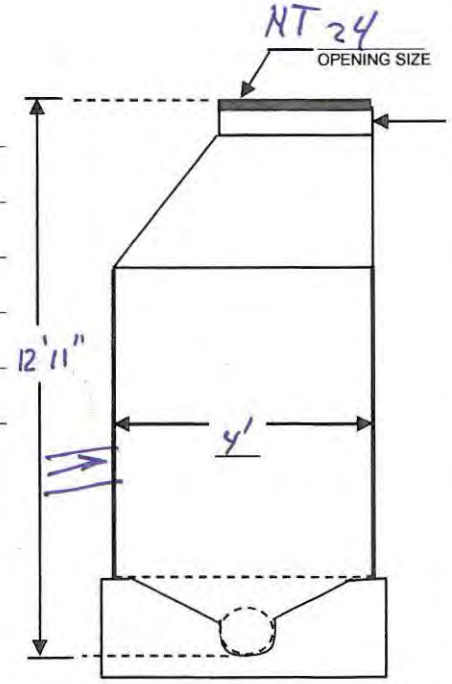
Manhole is in good condition
2 weld Joints were never completed during construction. Pipe penitration on North side is deteriorating
needs Sealed
Minimal DeBris in invert.

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE

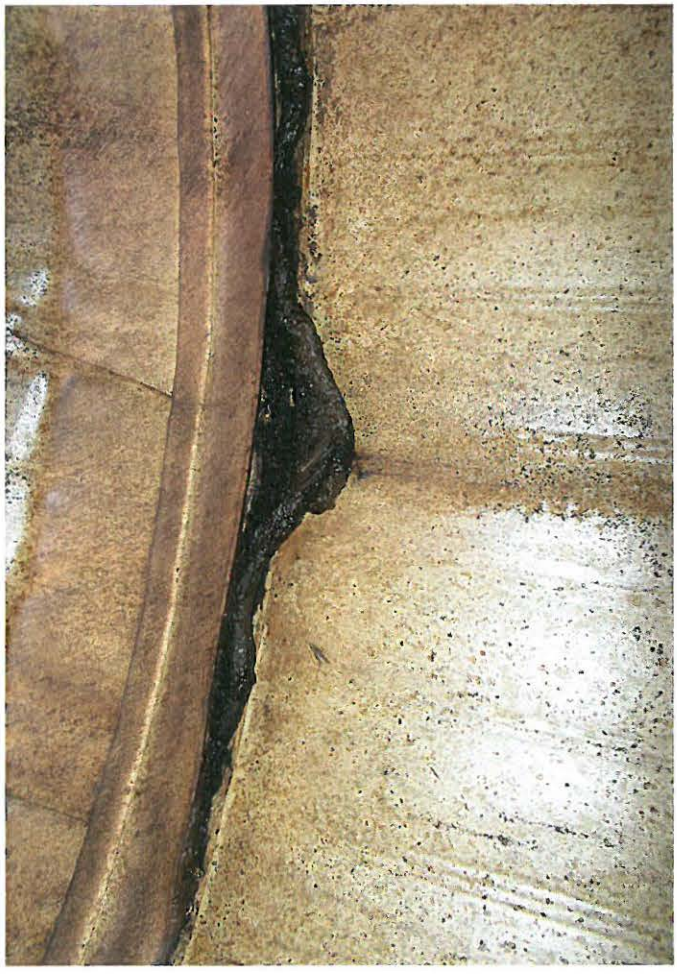



SEWE
SANITA
5N









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Joe

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 6N

MANHOLE / LANE LOCATION: Quail run & Chapay.

MANHOLE:

TYPE:
- ☐ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☐ PVC LINED
- ☐ OTHER

DIAMETER: 4'

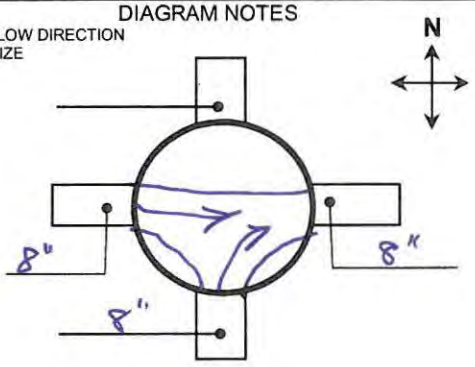
DEPTH: 13'2"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED good
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

manhole has Joints that need repaired.(3) 4 holes see photos.

coating on Bench & Adjustments is peeling needs replaced.

Medium deterioration on Bench.

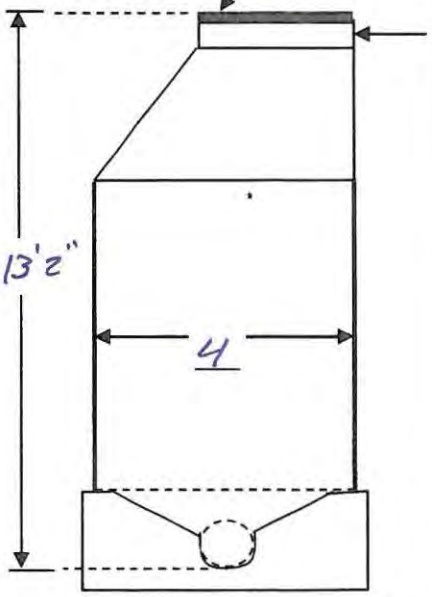
MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES

Good 24 OPENING SIZE



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

PULL TEST

INSPECTION EQUIPMENT USED:

INSP. START TIME:

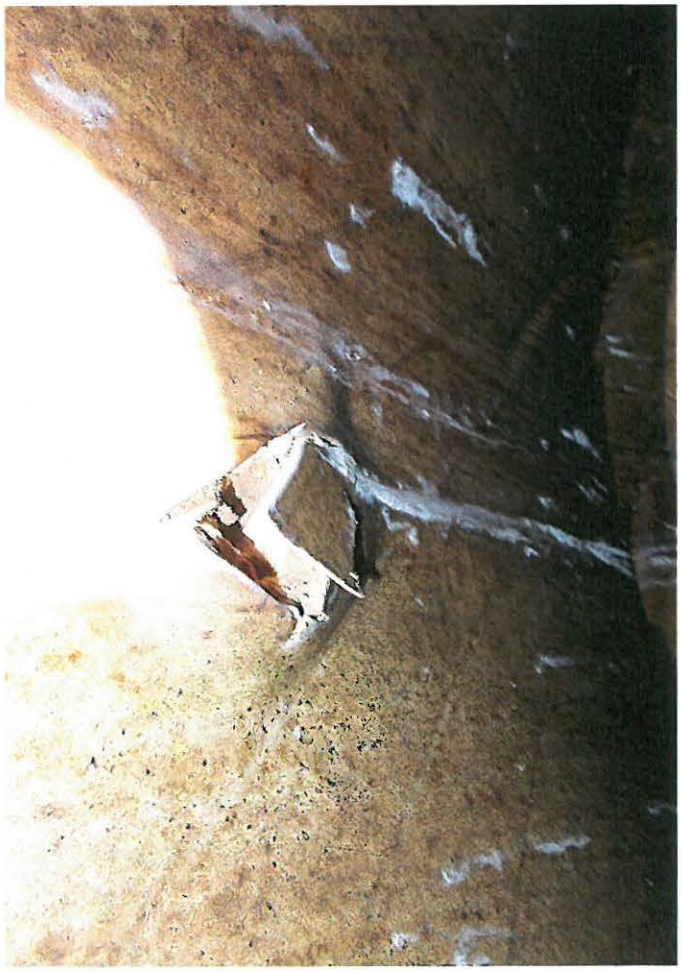
INSP. COMPLETION TIME:

CONDITION OF INVERT: ~~Light~~ Medium AeBris.

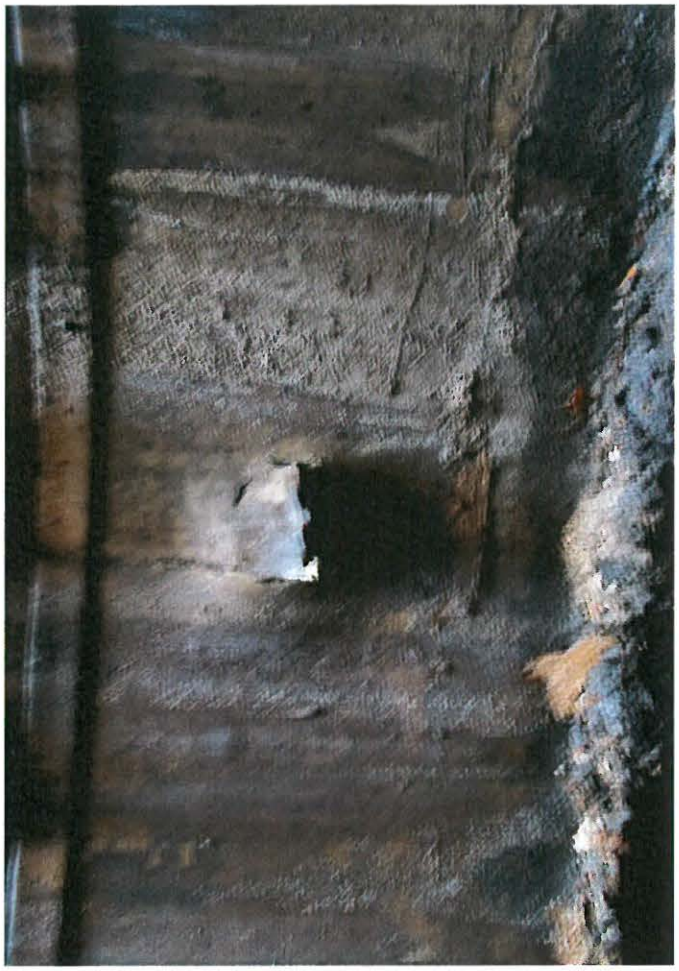
ADDITIONAL NOTES ON REVERSE OF PAGE








SANITARY
SEWER







MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Jay Jr

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 7N

MANHOLE / LANE LOCATION: Quail run loop. (6802)

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 10'10"

LONGITUDE:

LATITUDE:

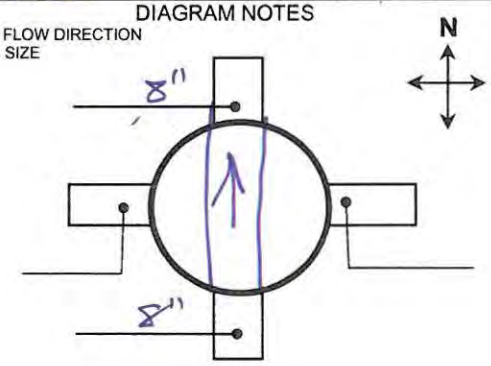
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

PVC Liner is good

Bench needs flow thru plugs and reBuilt to increase scowering velocity.

MH ACCESS:

SURFACE TYPE:

Ø # STEPS

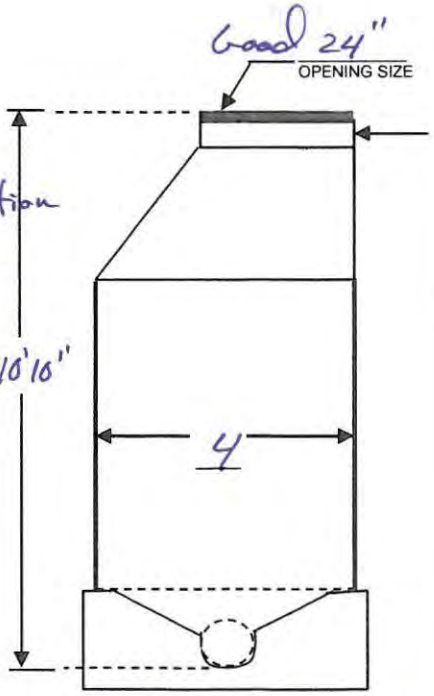
ADDITIONAL NOTES

Manhole is ingood condition

Bench needs chanal work

4" each side

Good 24" OPENING SIZE



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Heavy DeBris. Medium Deterioration.

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY SEWER



MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Jon Jr.

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 8N

MANHOLE / LANE LOCATION: Quail Run loop. (6842)

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 9'8"

LONGITUDE:

LATITUDE:

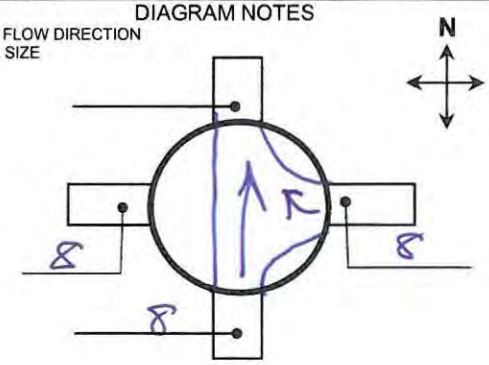
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC - SDR35

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

Miss shaped invert is allowing

DeBris to get caught & settle.

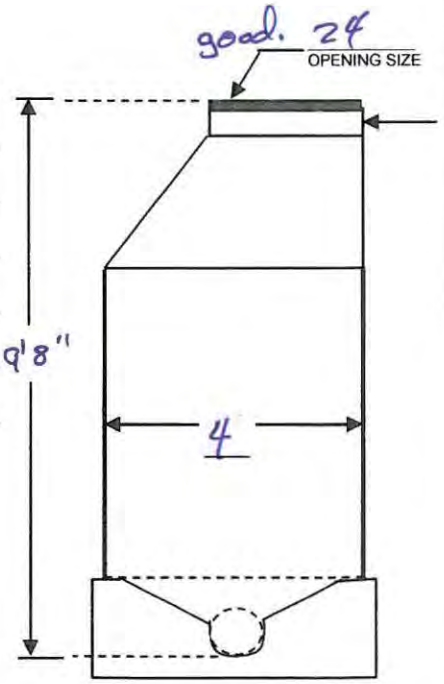
reshape invert.

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

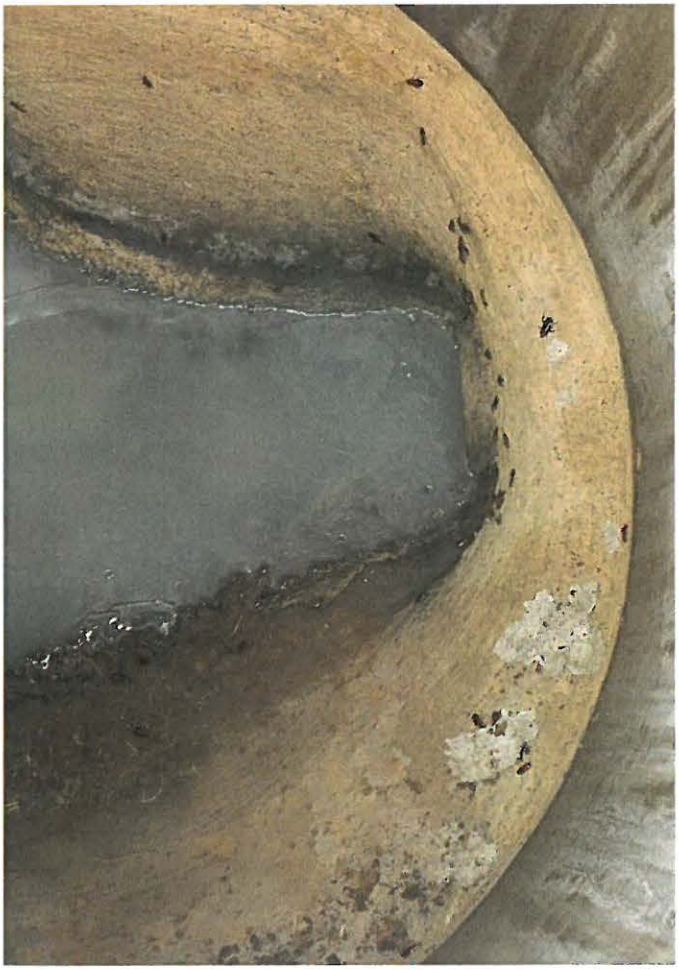
INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE






SANITARY SEWER
80

MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Jay Jr.

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 9N

MANHOLE / LANE LOCATION: Quail run loop.

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

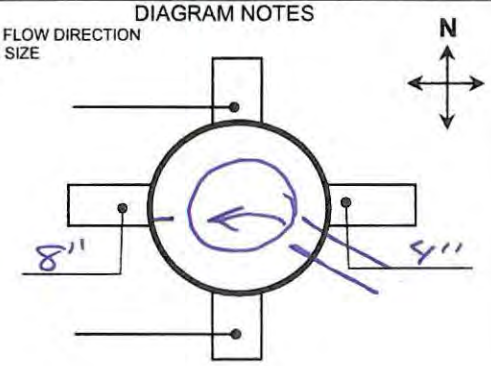
DEPTH: 6'5"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR 35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

Coating on Bench is peeling

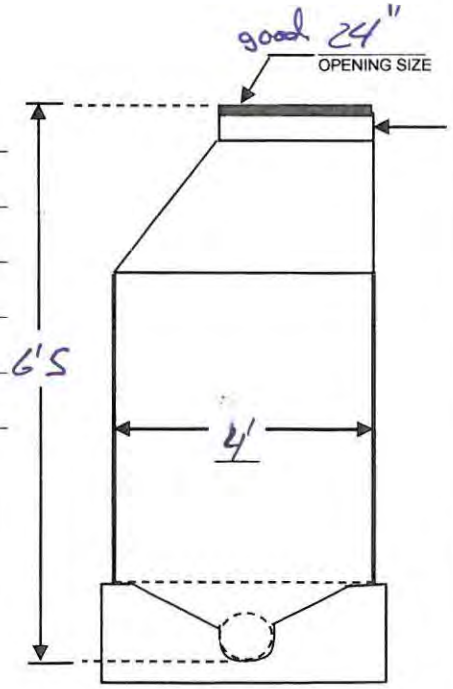
Bench needs to be recoated.

MH ACCESS:

SURFACE TYPE:

STEPS: 4

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: clean

ADDITIONAL NOTES ON REVERSE OF PAGE






N7



MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Joe Jr

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 10 N

MANHOLE / LANE LOCATION: Quail run loop (6829)

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

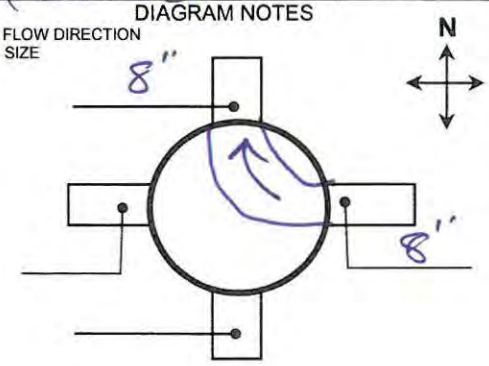
DEPTH: 10'8"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☐ DETERIORATED
- ☑ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

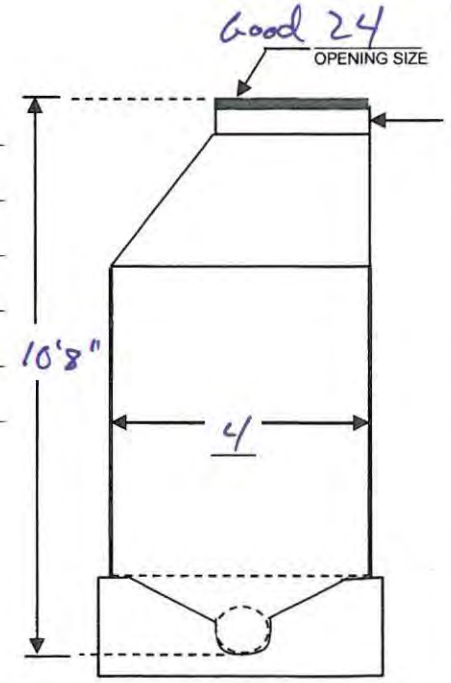
Manhole is in good condition Lack of flow is allowing solids drop out leading to DeBris Build-up

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

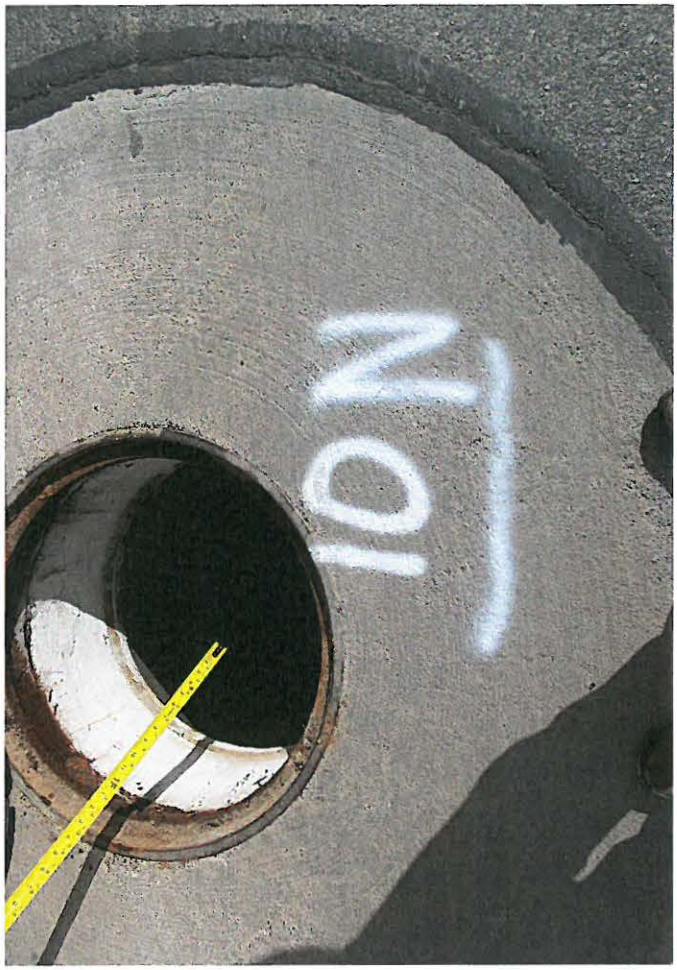
INSPECTION EQUIPMENT USED:

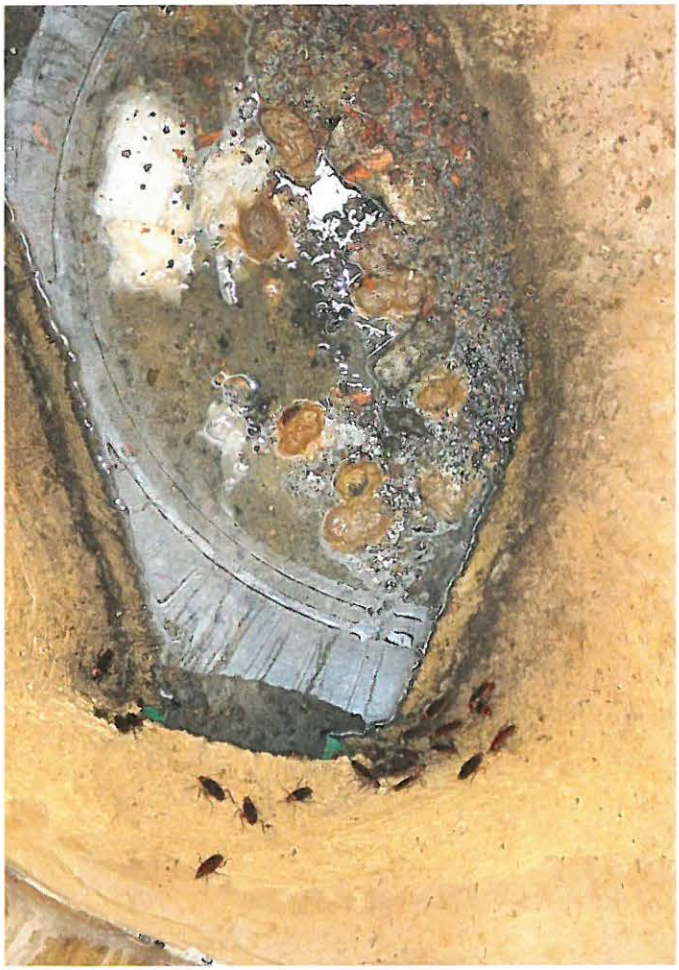
INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: DeBris.

ADDITIONAL NOTES ON REVERSE OF PAGE


IDN





MANHOLE INSPECTION REVIEW SHEET

DATE: 7-12-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 11 N

MANHOLE / LANE LOCATION: Quail run Loop.

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

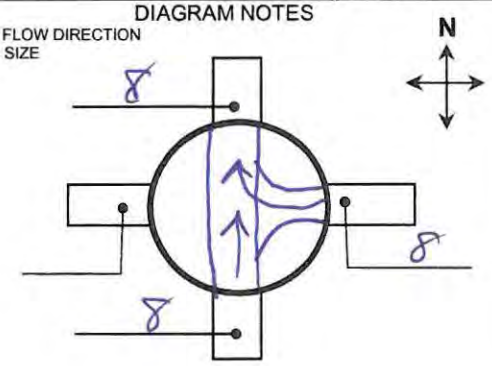
DEPTH: 12' 9"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐ Peeling

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

Bench coating is peeling

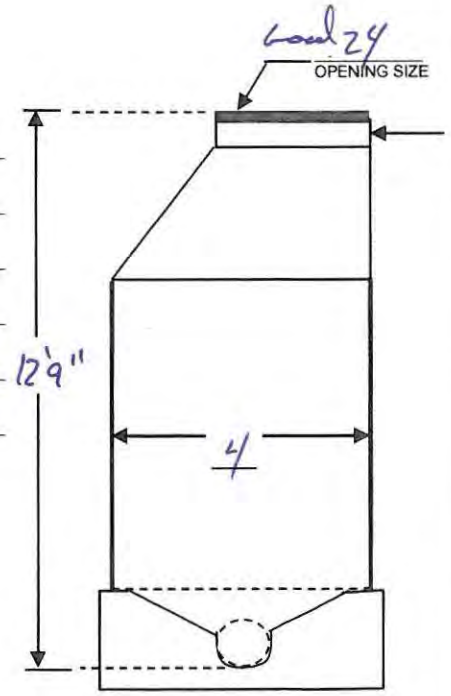
recoat Bench.

MH ACCESS: Paved

SURFACE TYPE:

STEPS:

ADDITIONAL NOTES:



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE













MANHOLE INSPECTION REVIEW SHEET

DATE: 12 2-12-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 12 N

MANHOLE / LANE LOCATION: Quail run loop

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4'

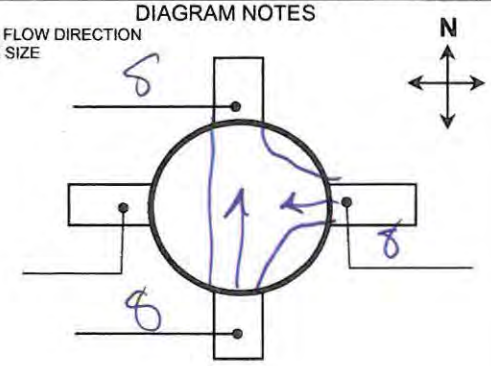
DEPTH: 13' 3"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐ Peeling

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Bench needs recoated

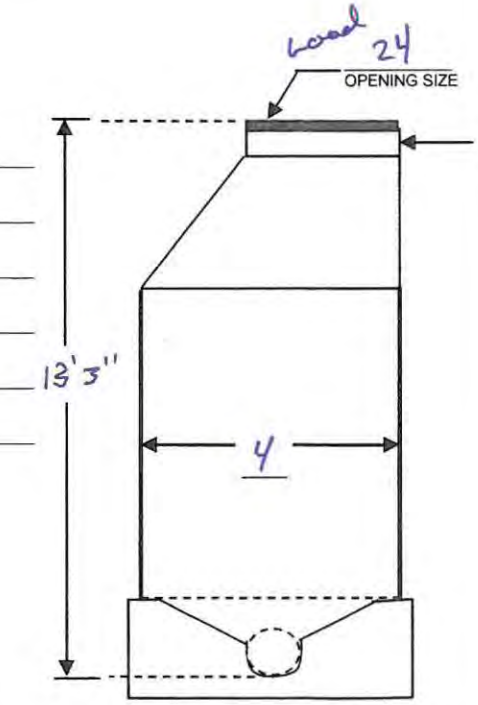
Manhole is good.

MH ACCESS:

SURFACE TYPE:

0 # STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

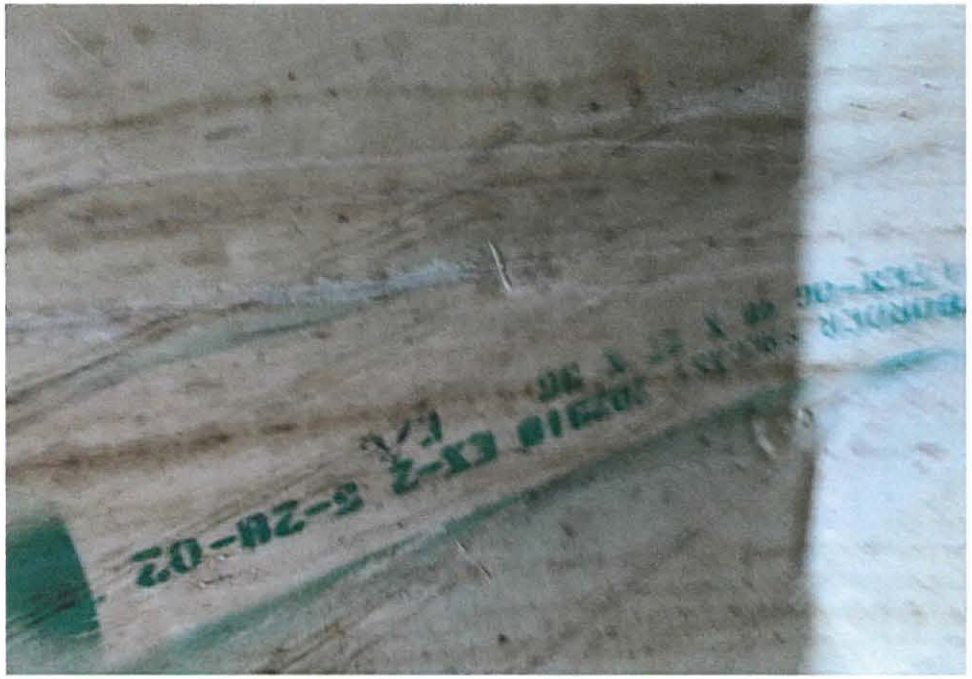
CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE


N21
SANITARY SEWER






5-28-02





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Jon N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 13 N

MANHOLE / LANE LOCATION: Quail run Loop

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

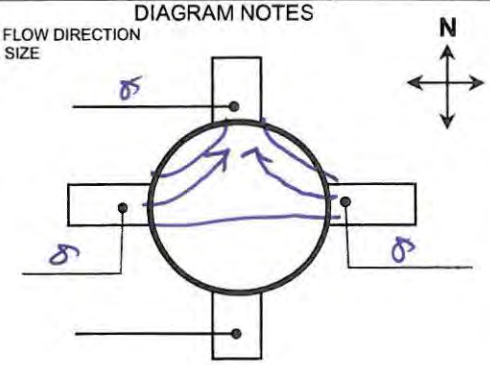
DEPTH: 13'

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED M
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR 35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole has 2 Joints that need repaired Heavy DeBris in invert Medium Deterioration.

MH ACCESS:

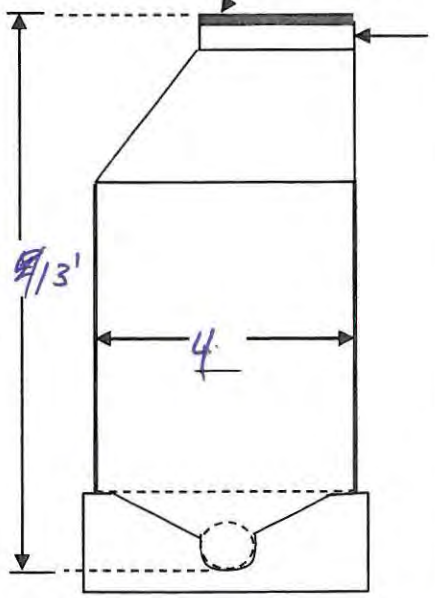
SURFACE TYPE:

STEPS

ADDITIONAL NOTES

NT

24 OPENING SIZE



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

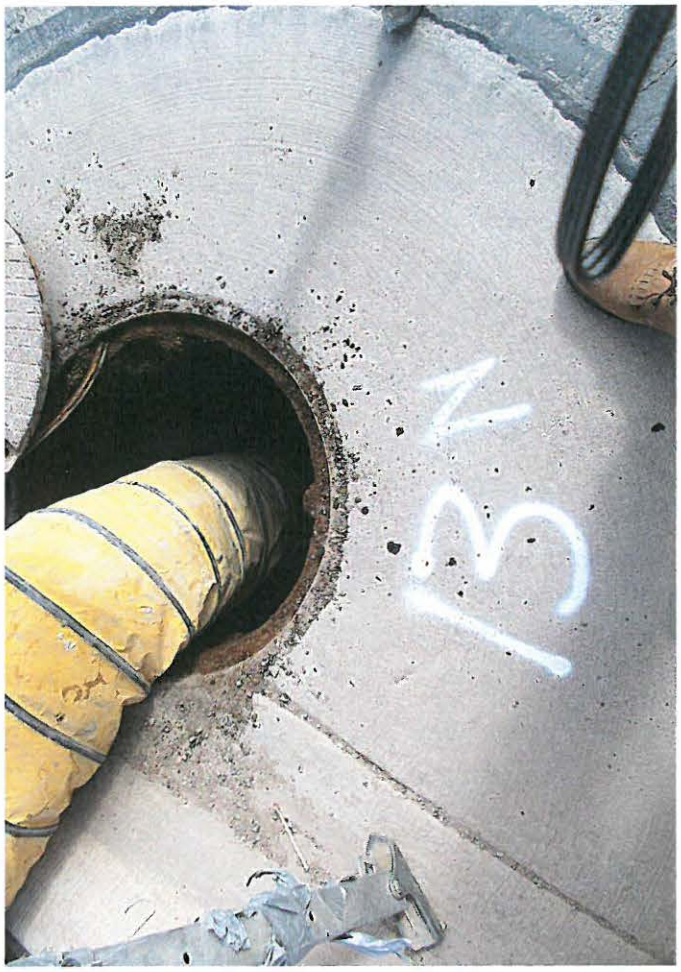
INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Heavy DeBris Medium Deterioration.

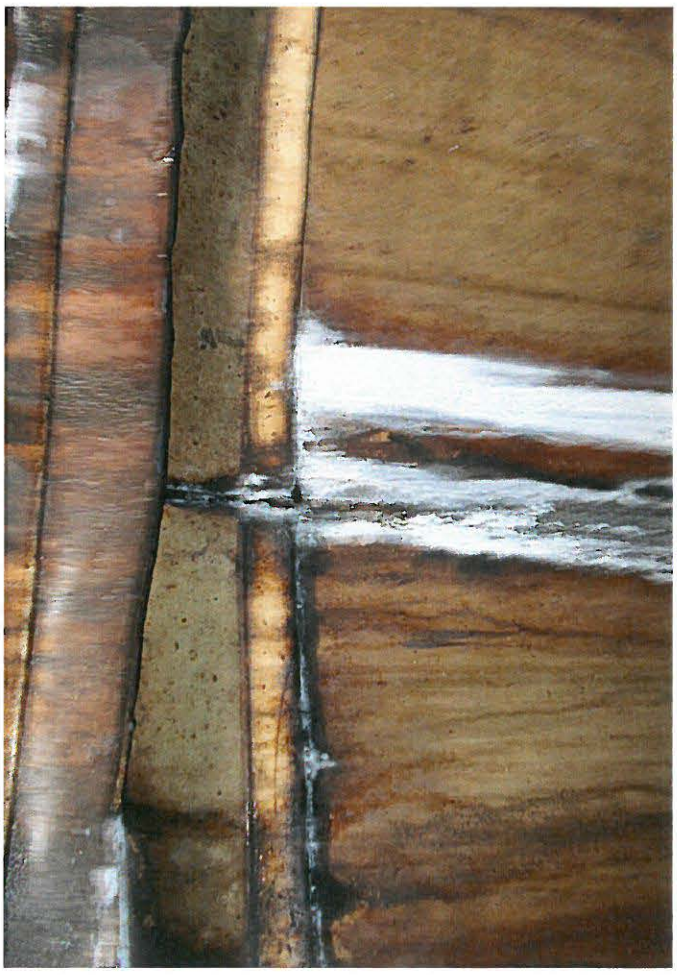
ADDITIONAL NOTES ON REVERSE OF PAGE


13N









Cocopah West

- Field observations

MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212

☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: CO1 W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☐ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☑ CO

MATERIAL:
- ☐ BRICK
- ☐ PRE-CAST
- ☐ COATED
- ☐ PVC LINED
- ☐ OTHER

DIAMETER

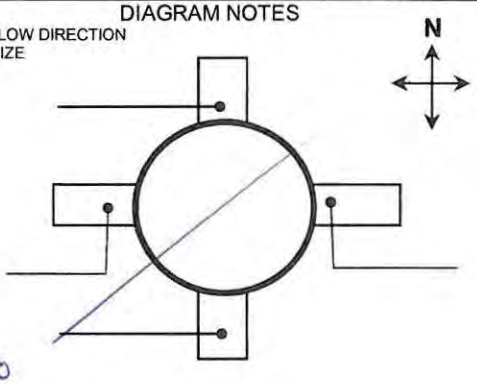
DEPTH

LONGITUDE

LATITUDE

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐ _____

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC White Sch 40

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

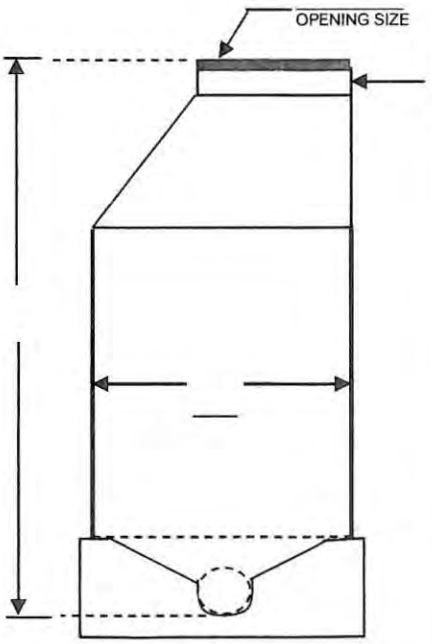
MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES

OPENING SIZE



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE: _____
- ☐ WATER INFILTRATION: _____
- ☐ OTHER: _____

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE


TOC


TOC



MANHOLE INSPECTION REVIEW SHEET

DATE: 12-18-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 2 W

MANHOLE / LANE LOCATION: Veterans Dr.

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

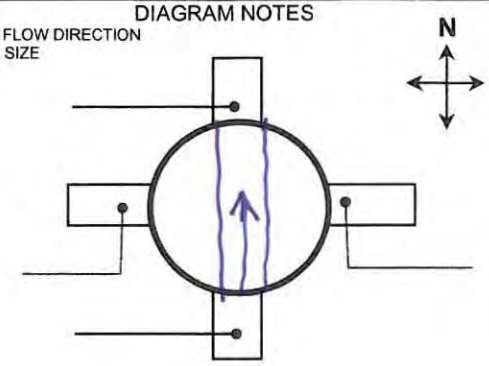
DIAMETER: 4

DEPTH: 5'6"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES
SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

manhole is in good condition

PVC Joint needs to Be repaired 1 ring & Cover needs replaced.

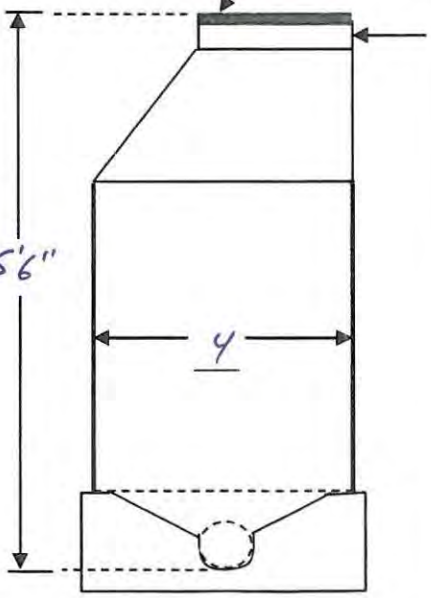
MH ACCESS: Landscape.

SURFACE TYPE:

STEPS

ADDITIONAL NOTES

Poor 24 OPENING SIZE



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY
NEENAH FOUNDRY CO.
SEWER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Jon N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None (None)

QUARTER SEC. / MH #: 2A

MANHOLE / LANE LOCATION: Veterans PL.

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

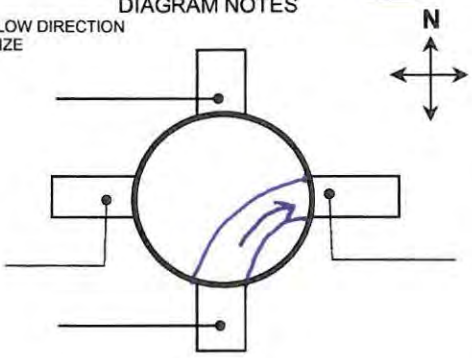
DEPTH: 5'6"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☑ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

manhole has 2 weld strips that need to be repaired in PVC Liner

Bench & Attachments need to be coated. Manhole needs to be raised 6" to grade.

MH ACCESS: Landscape

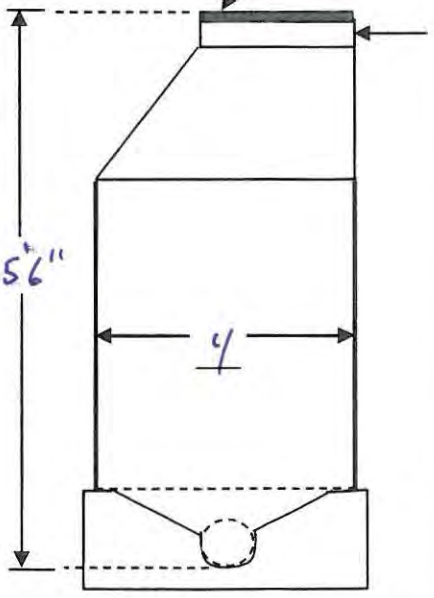
SURFACE TYPE:

STEPS:

ADDITIONAL NOTES:

NT

24 OPENING SIZE



SPARK TEST

PULL TEST

CONDITION OF INVERT

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

ADDITIONAL NOTES ON REVERSE OF PAGE









MANHOLE INSPECTION REVIEW SHEET

DATE: 2.12.2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets): Veterans Dr & Veterans Pl (14500)

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 3.W

MANHOLE / LANE LOCATION: Veterans Pl

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4'

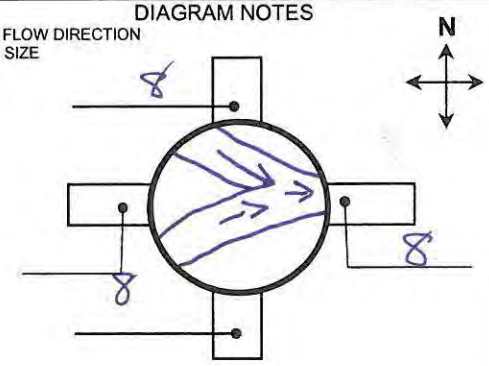
DEPTH: 5'5"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☑ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

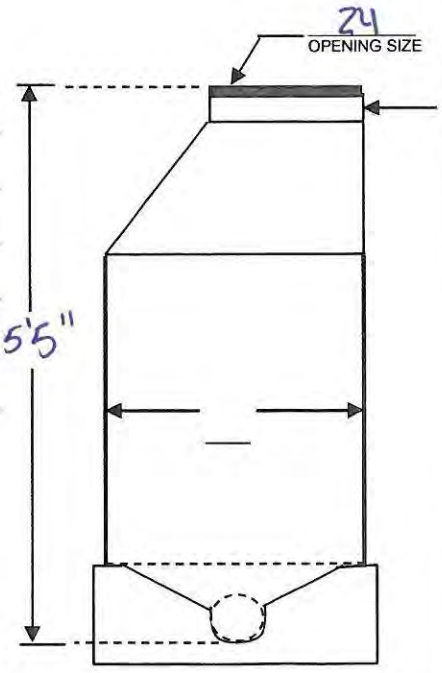
PVC on Adjustments needs to be removed Bench & Adjustments need to be rehabilitated.

MH ACCESS: paved

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

CONDITION OF INVERT

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

ADDITIONAL NOTES ON REVERSE OF PAGE











MANHOLE INSPECTION REVIEW SHEET

DATE: 2-18-2018 (12)

INSPECTOR: Joe H

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: C04

MANHOLE / LANE LOCATION: Behind Building

MANHOLE:

TYPE:
- ☐ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☐ PRE-CAST
- ☐ COATED
- ☐ PVC LINED
- ☐ OTHER

DIAMETER: X

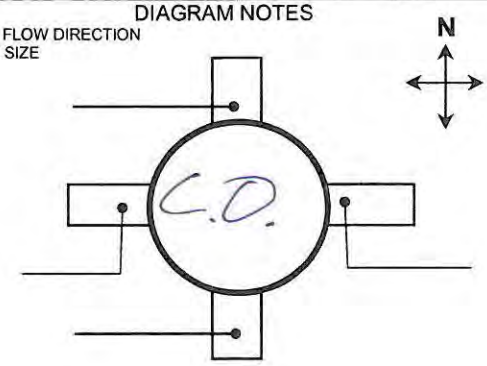
DEPTH:

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

clean out

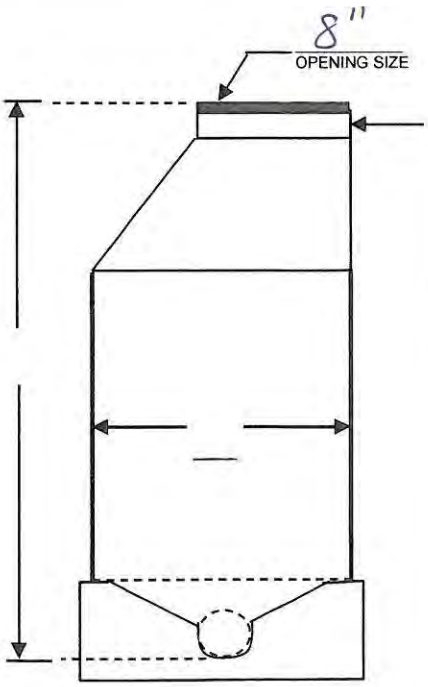
6" PVC

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-12-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS	TRAVEL TIME: ONE WAY / BOTH WAYS	Safety Assistant:	Traffic Control: Officer, Heavy, Medium, Light, None
QUARTER SEC. / MH #: 5 west	MANHOLE / LANE LOCATION: See map. Behind Building		

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 6'4"

LONGITUDE:

LATITUDE:

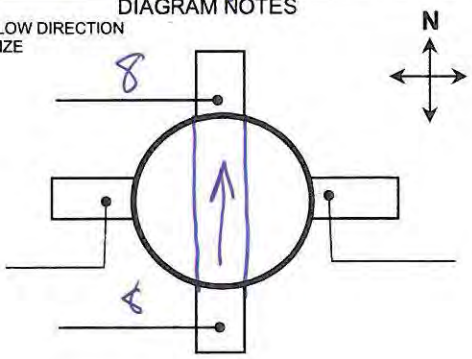
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole has Bulge in invert

PVC Needs to Be cut out and the invert

coated - 3 Joints on Barrels need

weld strips.

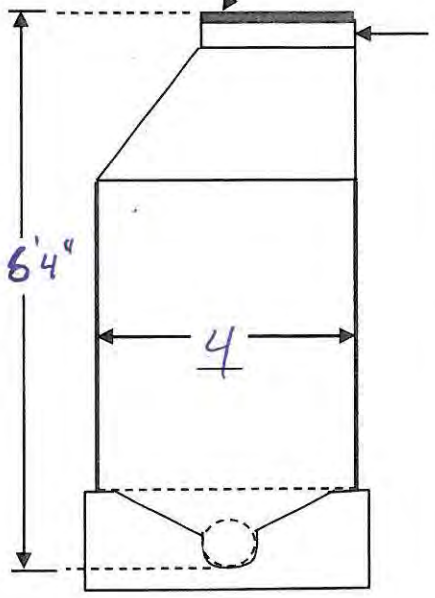
MH ACCESS: Dirt

SURFACE TYPE:

STEPS: Ø

ADDITIONAL NOTES

Lead 24 OPENING SIZE



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

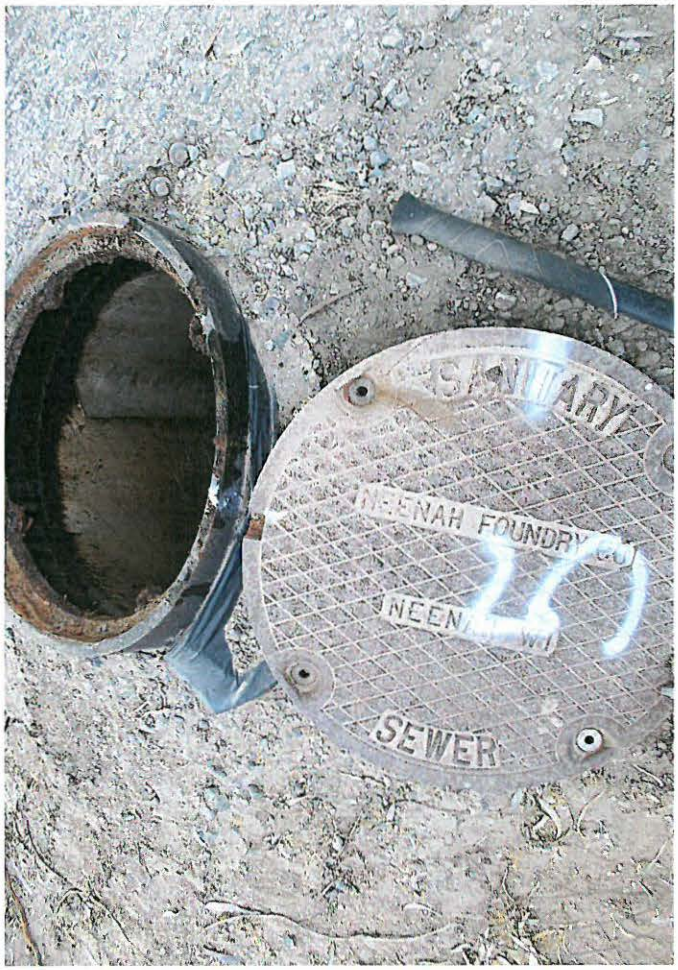
INSP. START TIME:

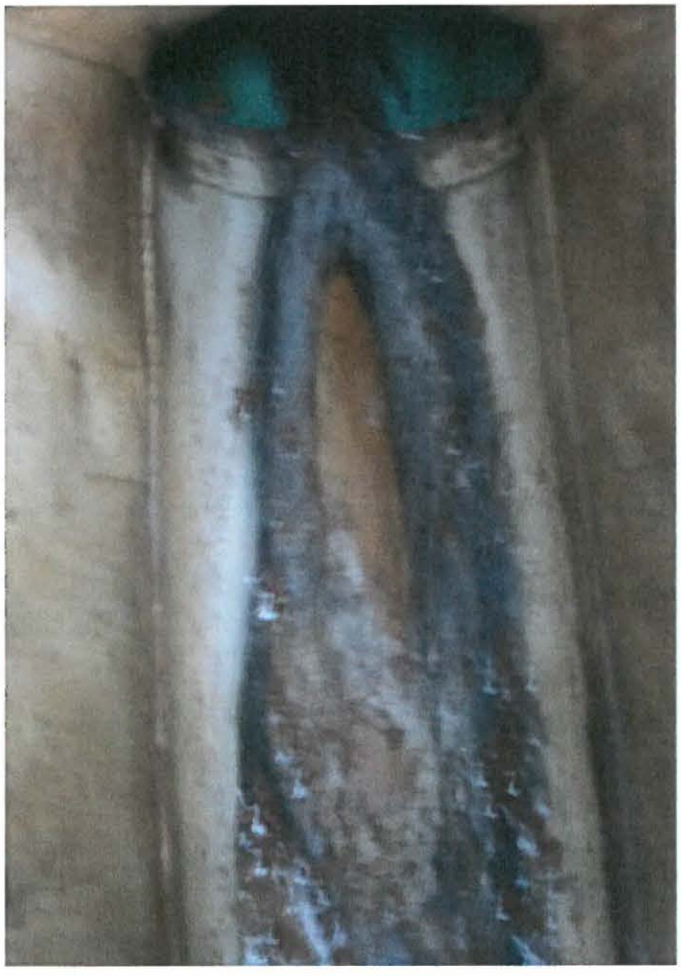
INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY
SEWER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 6 W

MANHOLE / LANE LOCATION: Veterans PL

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

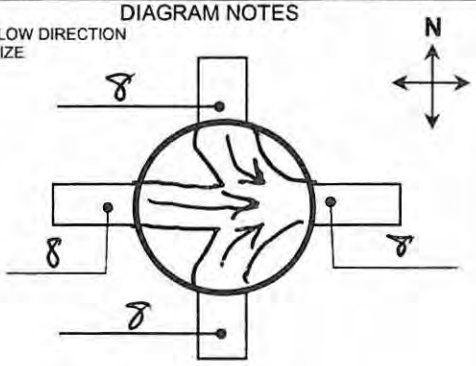
DEPTH: 6'3"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐ PVC lined

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

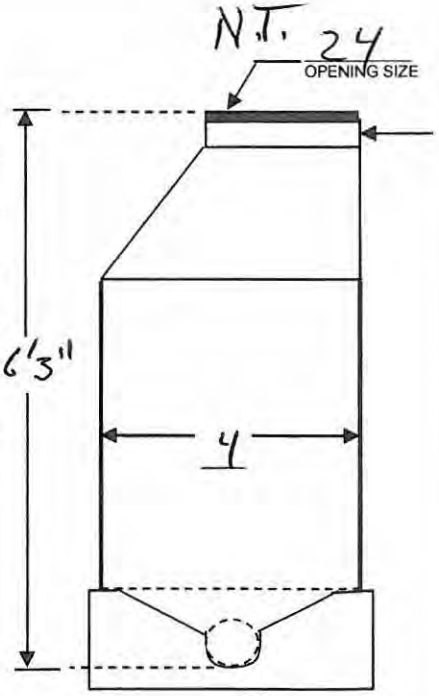
manhole is in good condition Adjustment rings need to have weld strips repaired - invert has loose PVC that needs to be removed & invert coated.

MH ACCESS: Dirt

SURFACE TYPE:

STEPS:

ADDITIONAL NOTES:



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: DeBris.

ADDITIONAL NOTES ON REVERSE OF PAGE









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: JoN

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / (Medium) / Light / None

QUARTER SEC. / MH #: 7 west

MANHOLE / LANE LOCATION: Centre Ave & Veterans PL.

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4'

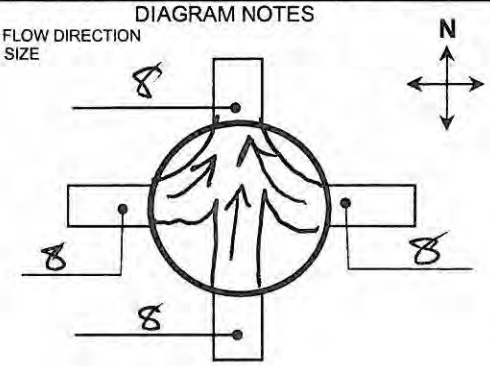
DEPTH: 9'2"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED Broke
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

manhole is good

Adjustments & invert/Bench need coated

Broken Bolt on Lid

MH ACCESS: intersection

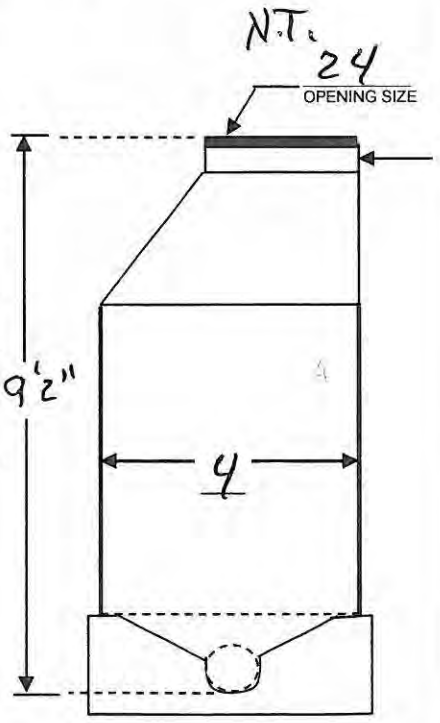
SURFACE TYPE:

STEPS

ADDITIONAL NOTES

SPARK TEST

PULL TEST



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: DeBris

ADDITIONAL NOTES ON REVERSE OF PAGE

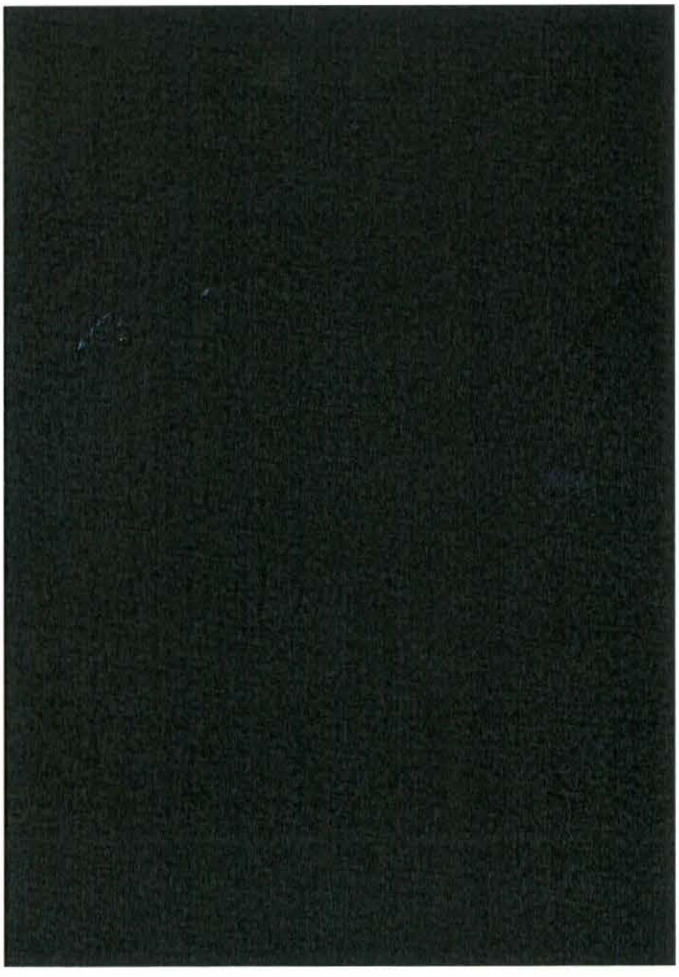





SANITARY
NEENAH WI
SEWER









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jr N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / (Light) / None

QUARTER SEC. / MH #: 8w

MANHOLE / LANE LOCATION: Veterans PL.

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

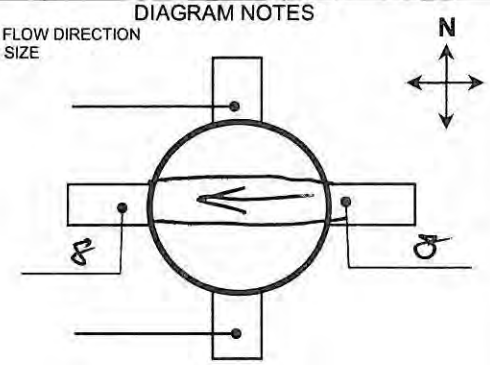
DEPTH: 9'3"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Adjustment rings need weld strip
invert has loose Buldged PVC
needs removed & coated
shaft is good.

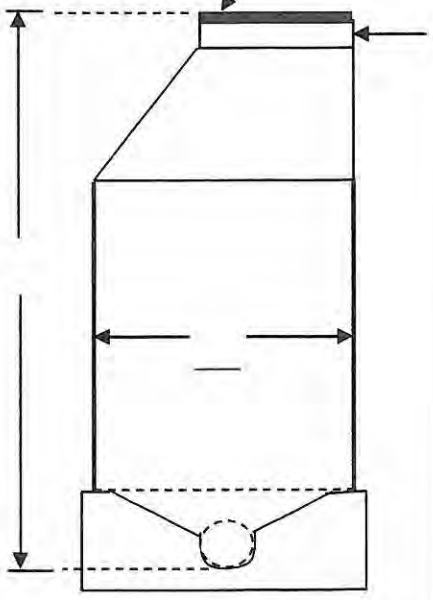
MH ACCESS: Dirt

SURFACE TYPE:

N.T. 24
OPENING SIZE

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE: _____
- ☐ WATER INFILTRATION: _____
- ☐ OTHER: _____

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

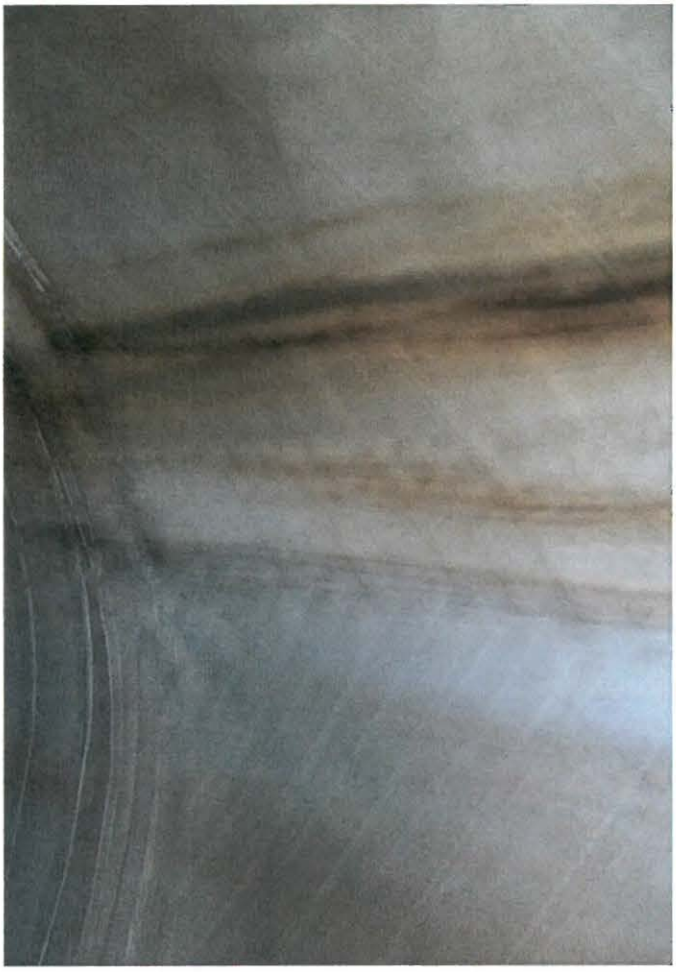
INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE








3



MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe H

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 10 W

MANHOLE / LANE LOCATION: west Side of Centrey Ave

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 11'9"

LONGITUDE:

LATITUDE:

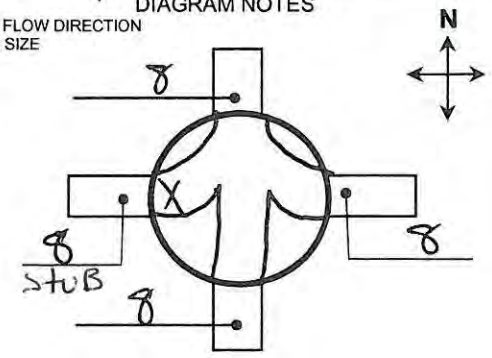
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

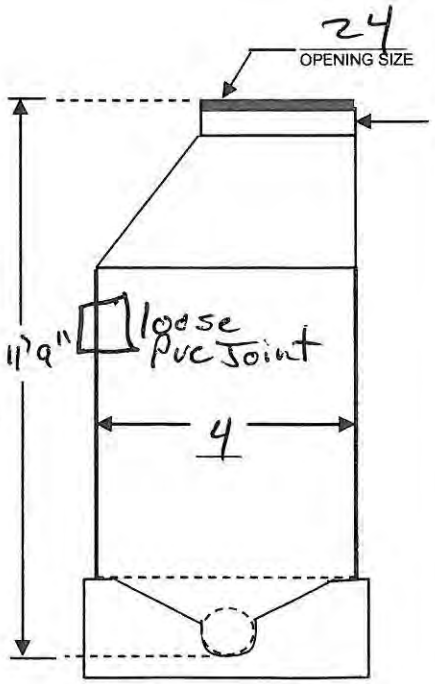
Adjustments & Bench need coated
1 pvc Joint Barrel to cone
needs repaired.
Adjustments have Bad
Joints.

MH ACCESS: Dirt - Farm Field

SURFACE TYPE:

STEPS: Ø

ADDITIONAL NOTES:



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

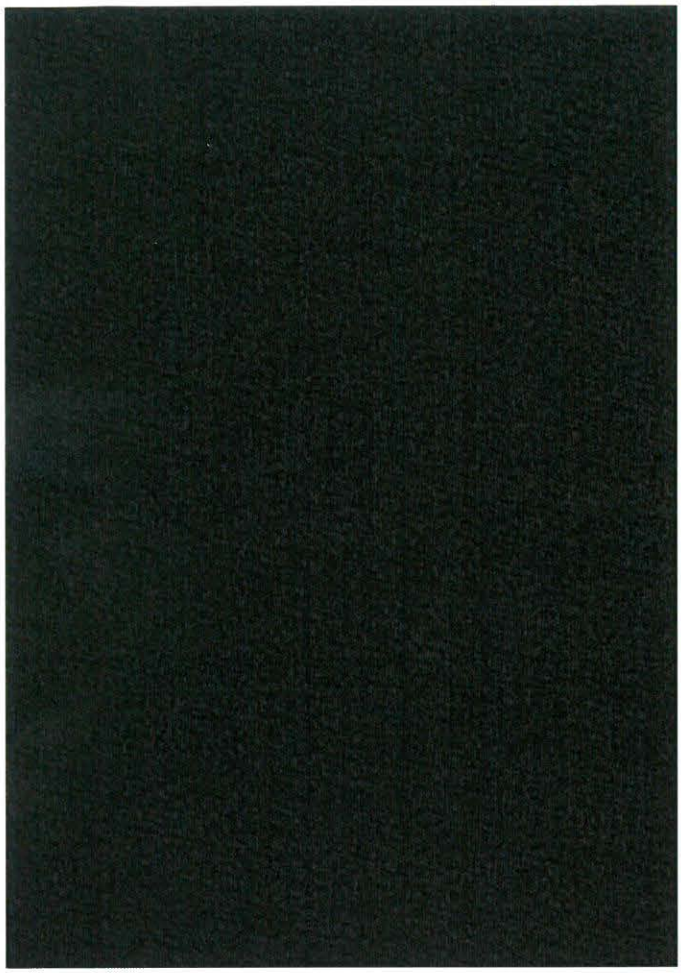
INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: DeBris Deteriorated

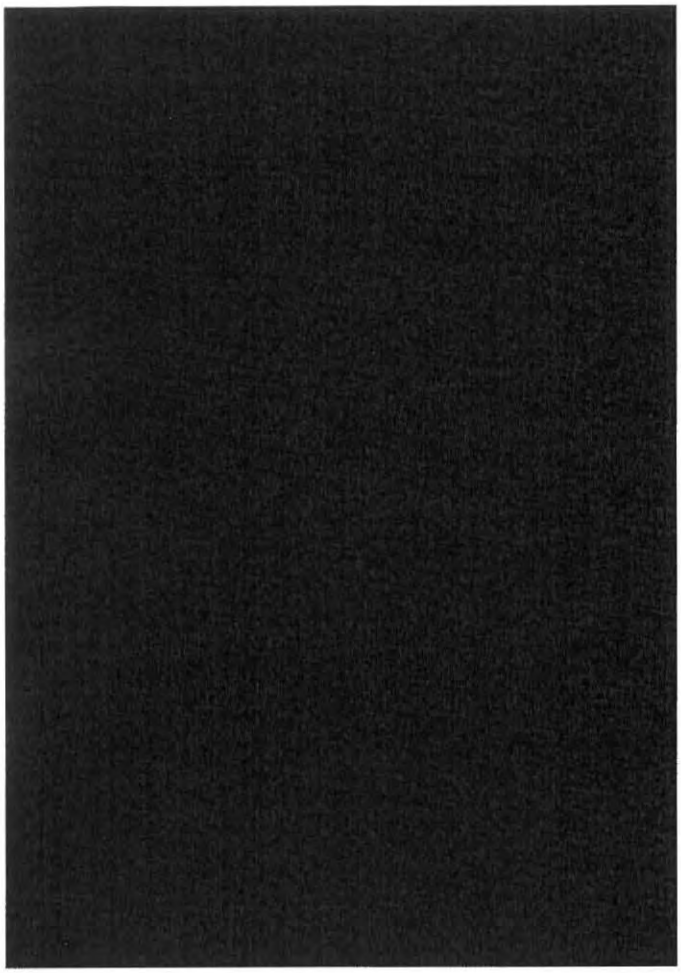
ADDITIONAL NOTES ON REVERSE OF PAGE











MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jor N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 11 W

MANHOLE / LANE LOCATION: Centre

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

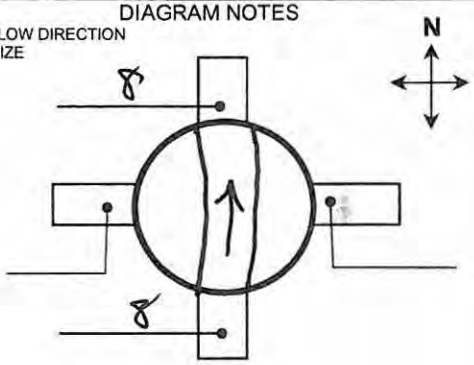
DEPTH: 14'8"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☑ DETERIORATED
- ☑ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

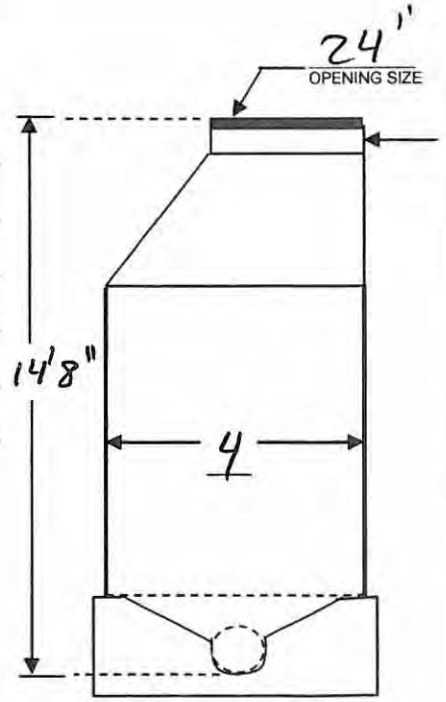
This manhole is in good condition all weld Joints are good at this time Bench & invert are good.

MH ACCESS: Dirt

SURFACE TYPE:

0 # STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

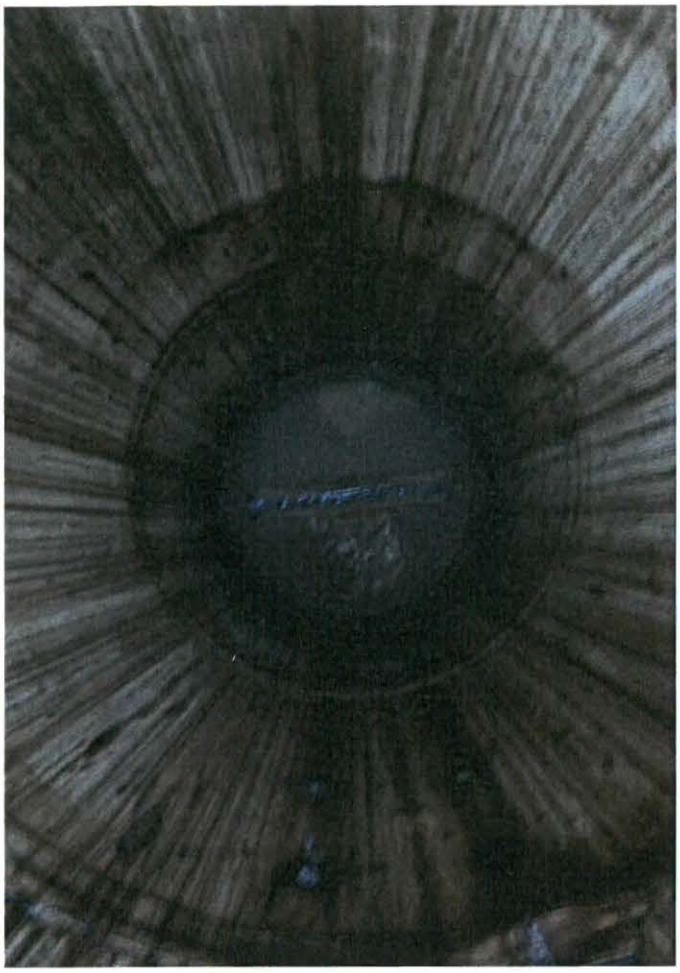
INSPECTION EQUIPMENT USED:

INSP. START TIME:

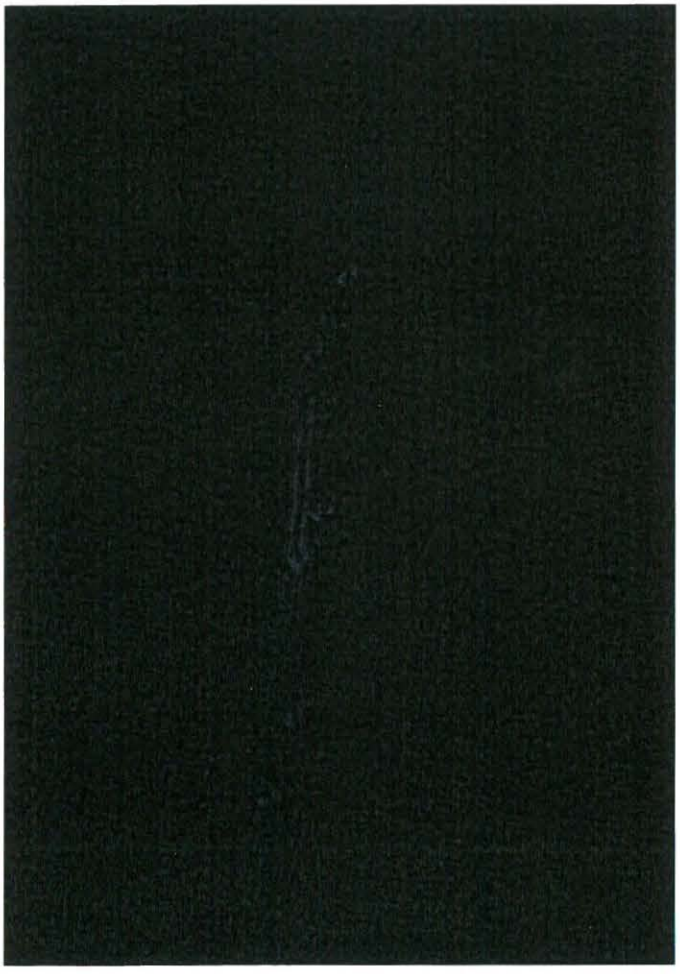
INSP. COMPLETION TIME:

CONDITION OF INVERT: clean

ADDITIONAL NOTES ON REVERSE OF PAGE











MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jon N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 12 W

MANHOLE / LANE LOCATION: Centre

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

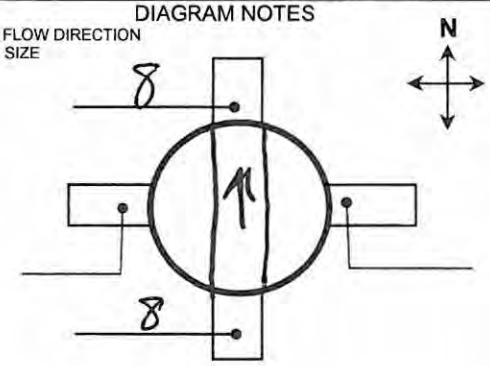
DEPTH: 15'7"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☑ MISALIGNED
- ☑ COATED
- ☐ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

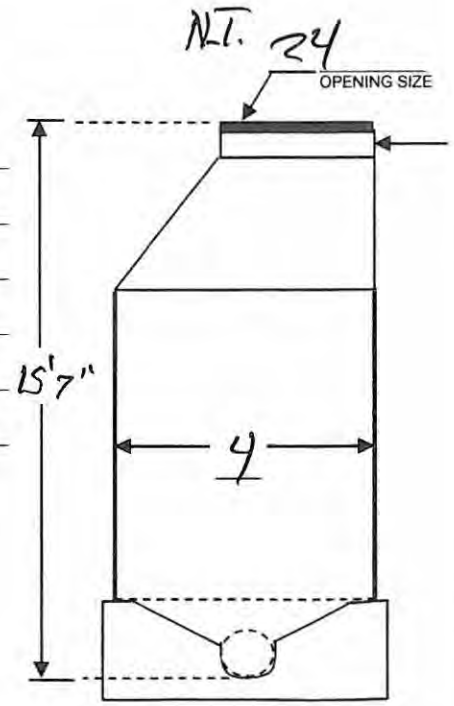
No repairs needed.

MH ACCESS:

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

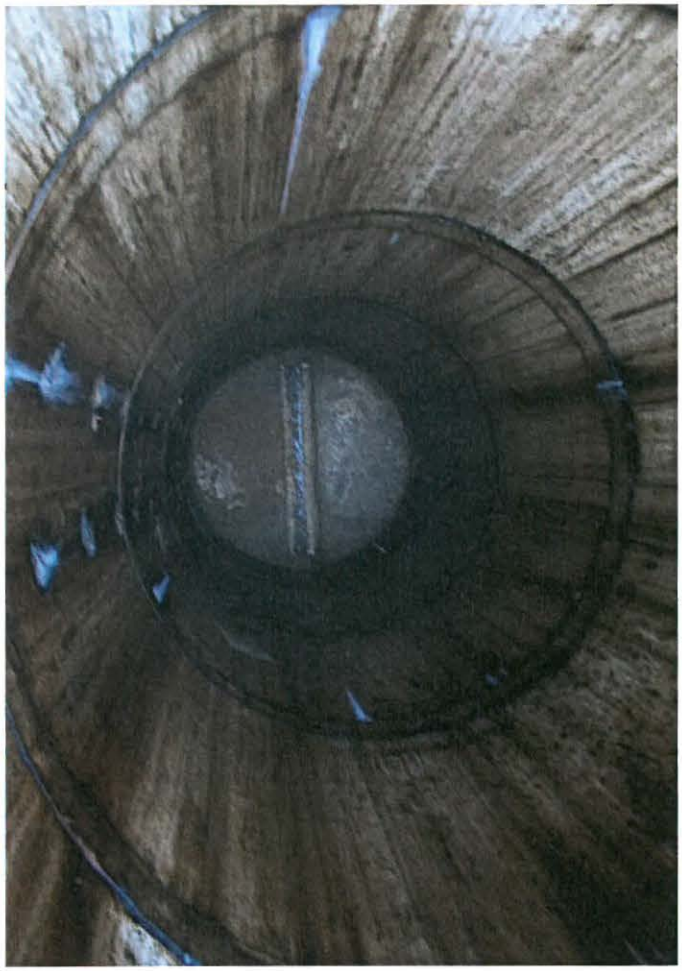
INSPECTION EQUIPMENT USED:

INSP. START TIME:

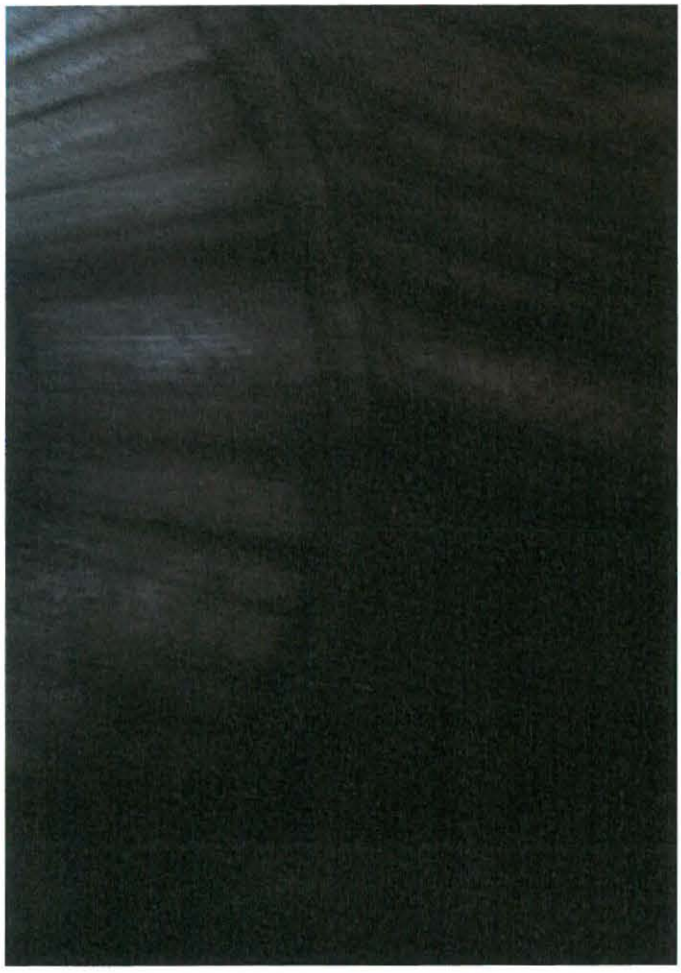
INSP. COMPLETION TIME:

CONDITION OF INVERT: Clean

ADDITIONAL NOTES ON REVERSE OF PAGE

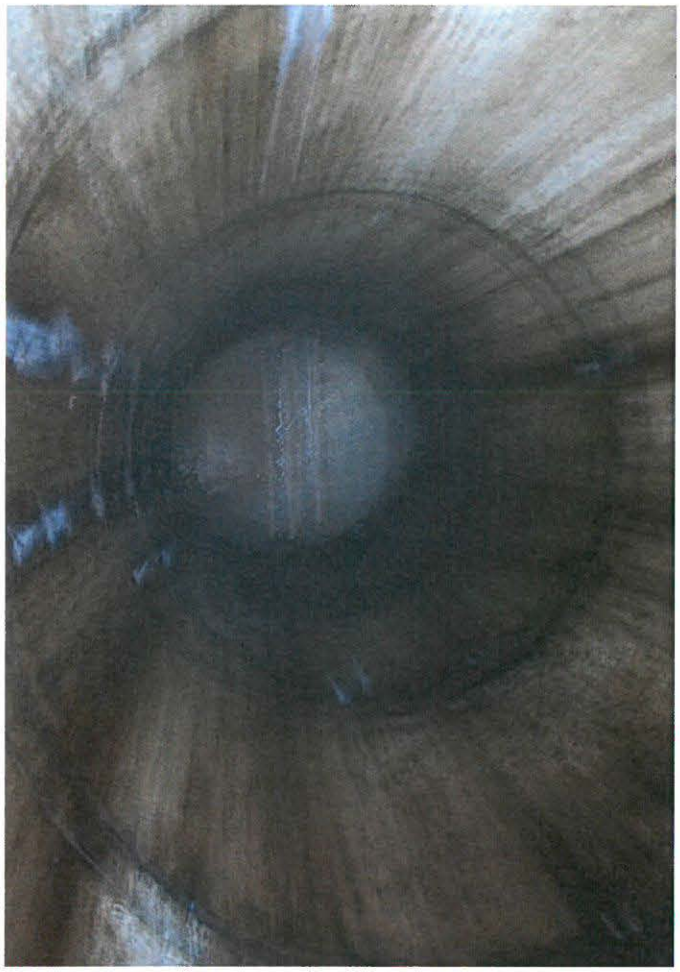












MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jor N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 13 W

MANHOLE / LANE LOCATION: Centre

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

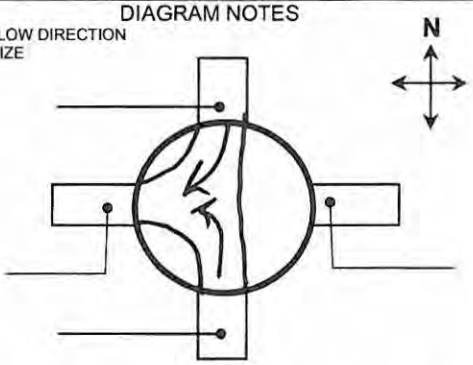
DEPTH: 17'8"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

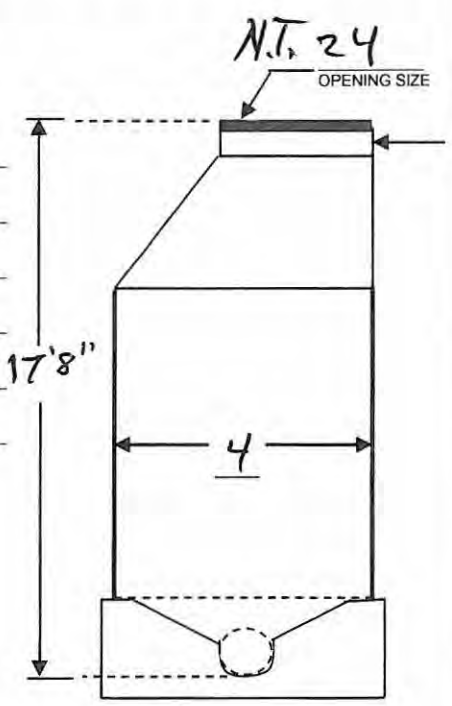
Manhole is in good condition PVC is slightly swollen around North Pipe entry (small repair)

MH ACCESS: Paved outside lift station.

SURFACE TYPE:

STEPS: Ø

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

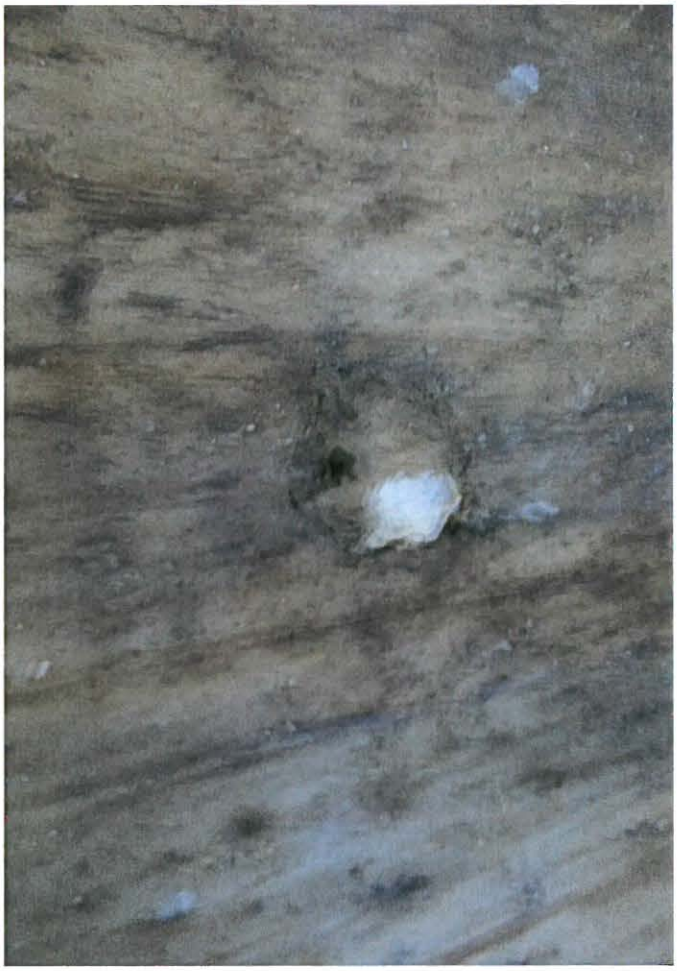
CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE






SEWER







MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 14/W

MANHOLE / LANE LOCATION: Centre Ave

MANHOLE:

TYPE:
- ☐ STANDARD
- ☑ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

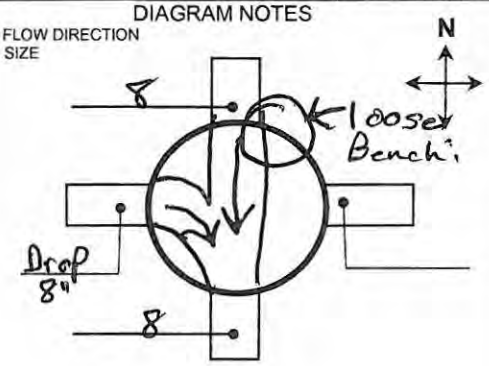
DEPTH: 16'2"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐ PVC loose

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED Broke
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

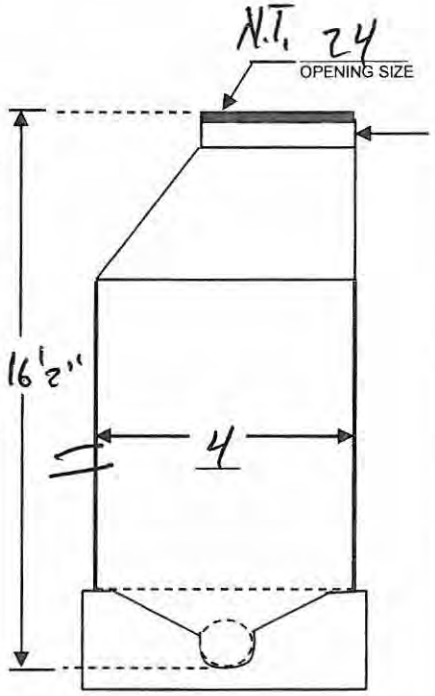
Bench & invert need to be stripped and coated Adjustment needs coated step holes on south wall need cut out & patched - patch around drop

MH ACCESS: Intersection

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

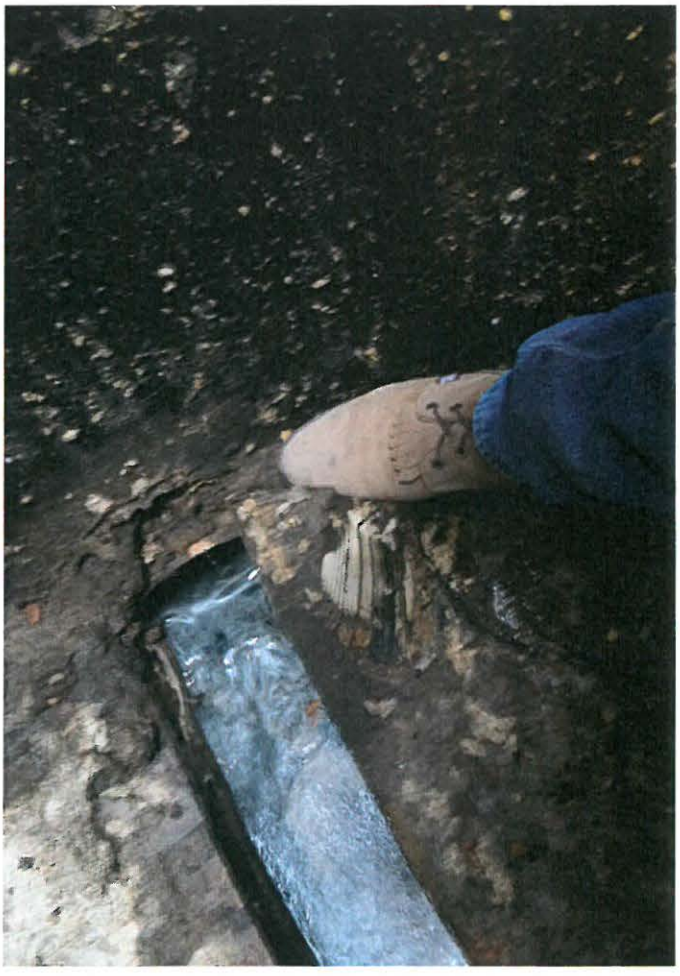
ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C.

Traffic Control: Officer / Heavy / Medium / Light / (None)

QUARTER SEC. / MH #: 15 W

MANHOLE / LANE LOCATION: Cactee Ave

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

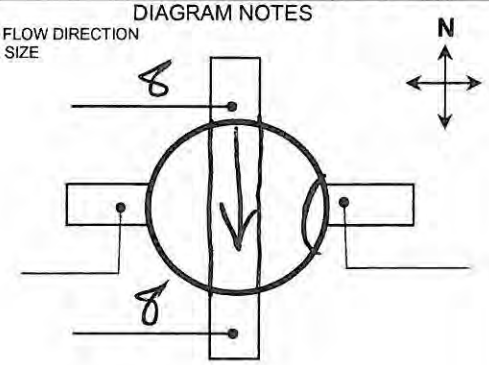
DEPTH: 15'7"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole has a defect in P.V.C. Liner 7' From Bottom on east wall needs repaired

Bench & inver need Pvc removed

& Coated P.V.C. is obstructing flow

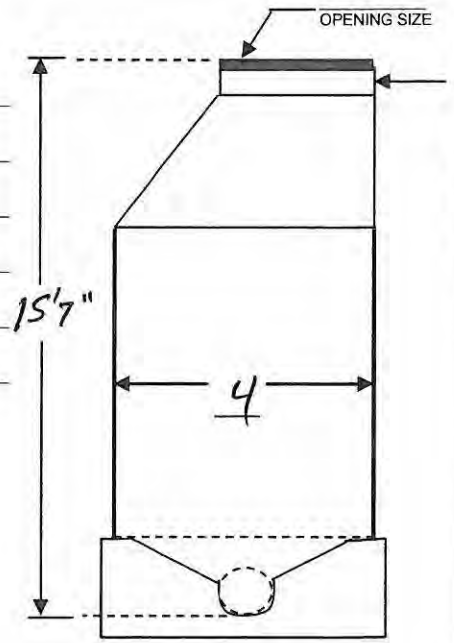
coat Adjustments

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

PULL TEST

INSPECTION EQUIPMENT USED:

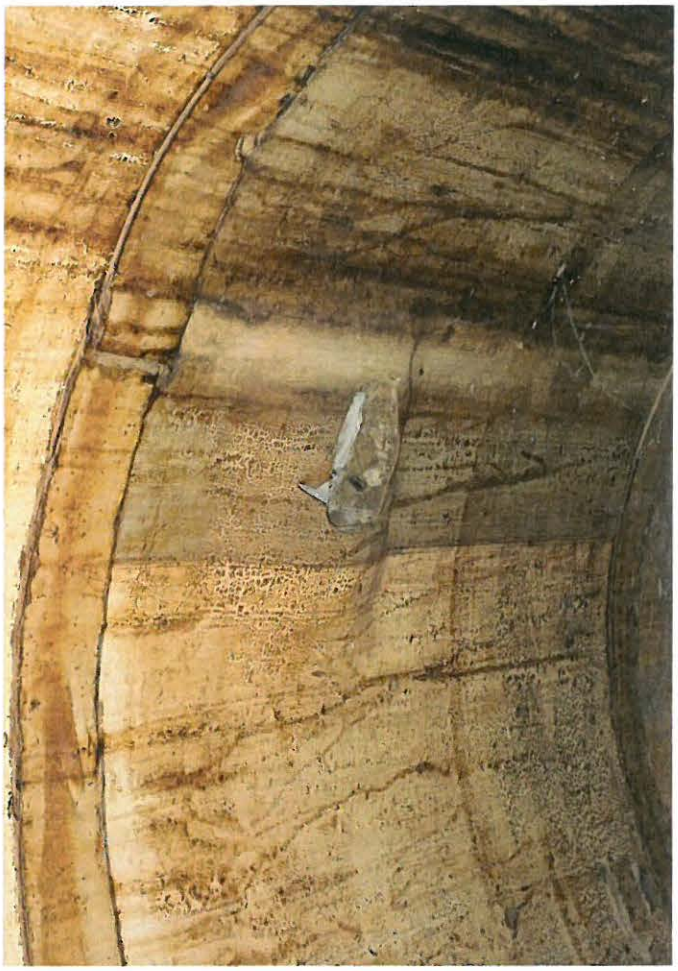
INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE


SEWER
SANITARY















MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jon N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C

Traffic Control: Officer, Heavy, (Medium), Light, None

QUARTER SEC. / MH #: 16 W

MANHOLE / LANE LOCATION: Intersection of Hwy & Centro Ave

MANHOLE:

TYPE:
- ☐ STANDARD
- ☑ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 14'2"

LONGITUDE:

LATITUDE:

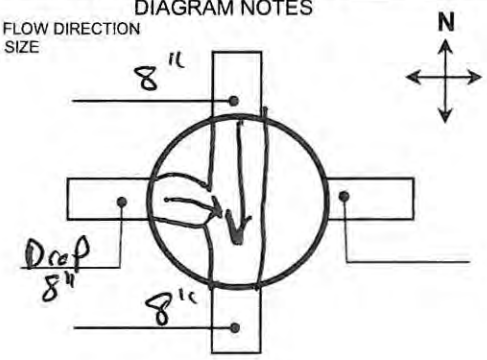
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☑ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

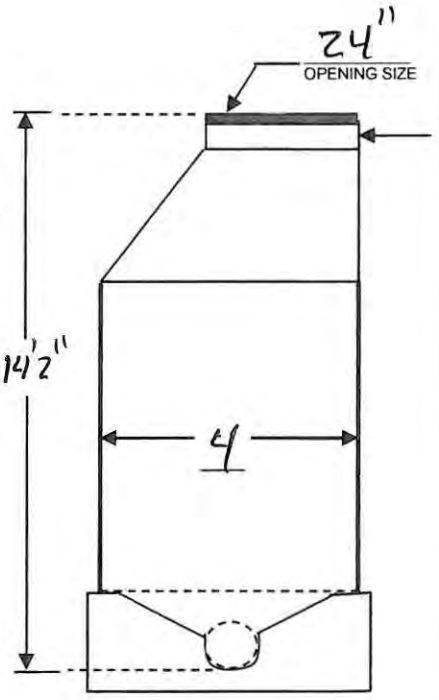
PVC on Bench & invert are peeling and obstructing Flow, needs removed & Bench coated - coat Adjustments Medium Deterioration Light Debris.

MH ACCESS:

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES:



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

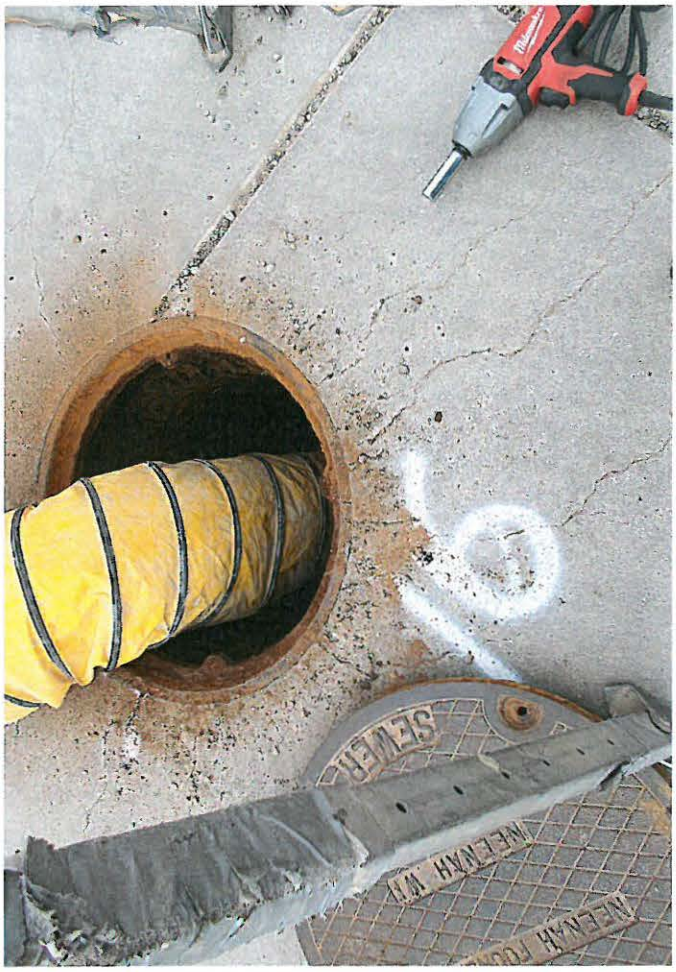
INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE




SEWER
NEENAH WI







MANHOLE INSPECTION REVIEW SHEET

DATE: 2-18-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 17w

MANHOLE / LANE LOCATION: Centre Ave

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

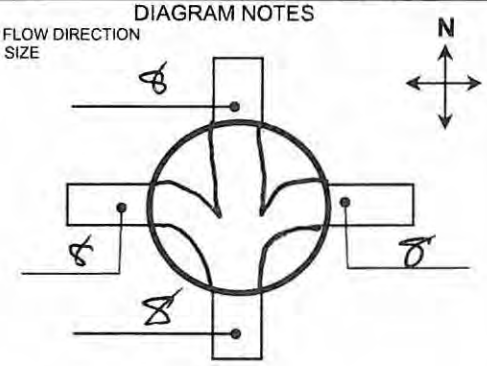
DEPTH: 12'3"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

Bench & Adjustments have Medium

deterioration need coated

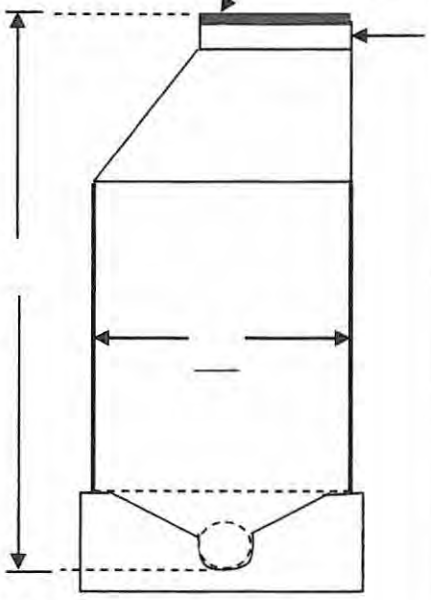
MH ACCESS: Dirt.

SURFACE TYPE:

STEPS:

ADDITIONAL NOTES:

N.T. 24 OPENING SIZE



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

SPARK TEST

PULL TEST

CONDITION OF INVERT: ~~Light~~ Heavy DeBris.

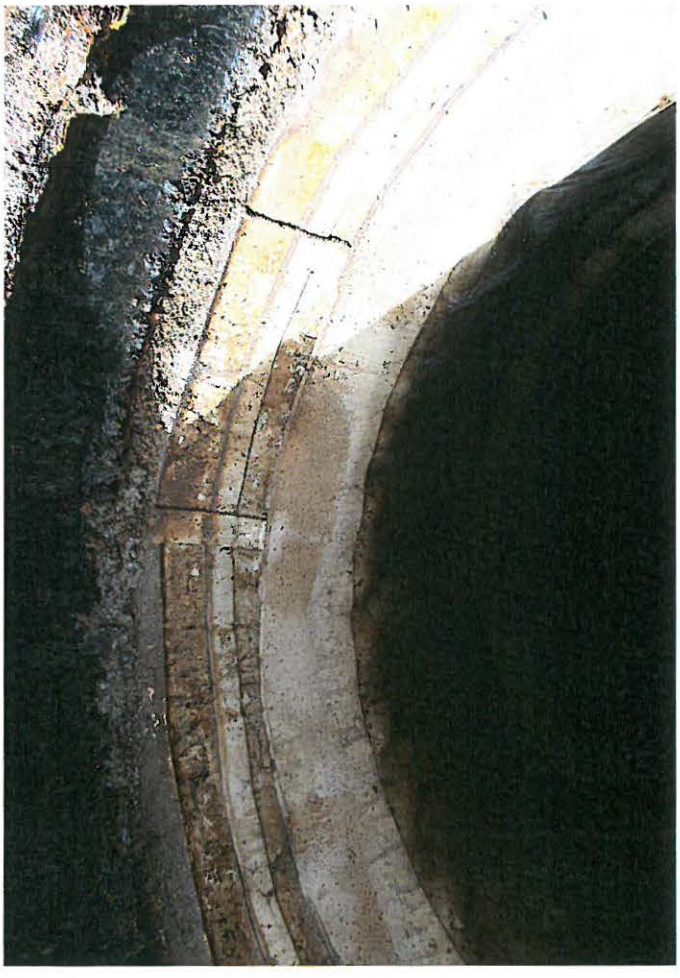
ADDITIONAL NOTES ON REVERSE OF PAGE


SANITARY
NEENAH FOUNDRY CO
NEENAH WI
SEWER











MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C,

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 18W

MANHOLE / LANE LOCATION: Centre Ave

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

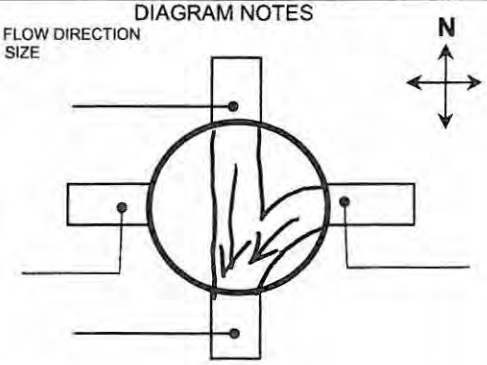
DEPTH: 11'9"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

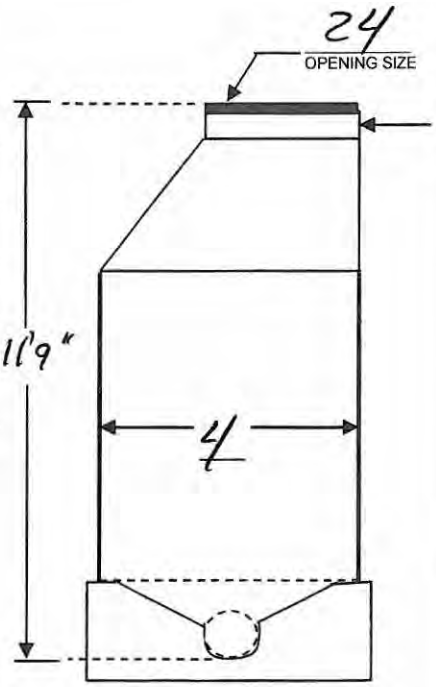
Manhole is in good condition
Bench needs to Be coated
medium Deterioration / DeBris
3 PVC Joints on Manhole
shafts need to Be repaired

MH ACCESS: Dirt

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

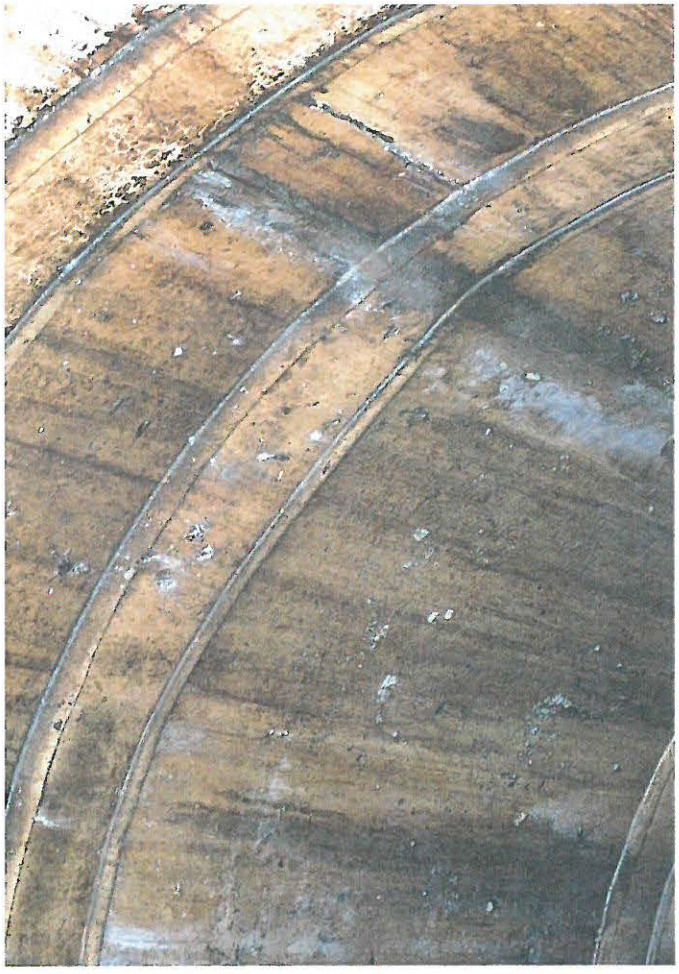
CONDITION OF INVERT: Medium Deterioration

ADDITIONAL NOTES ON REVERSE OF PAGE






SANITARY
NEENAH WI
DENVER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 19 W

MANHOLE / LANE LOCATION: Centre Ave & Steamboat

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

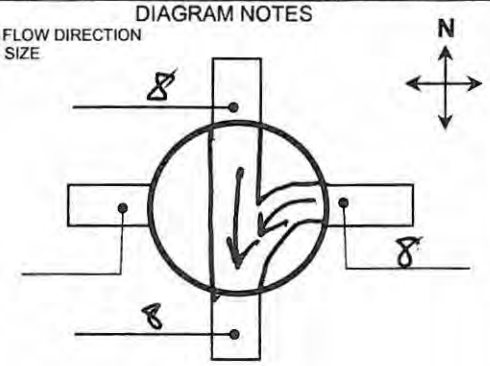
DEPTH: 9'

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

2 Joints need repaird in PVC

Adjustment weld strip needs repaired

Bench needs coated.

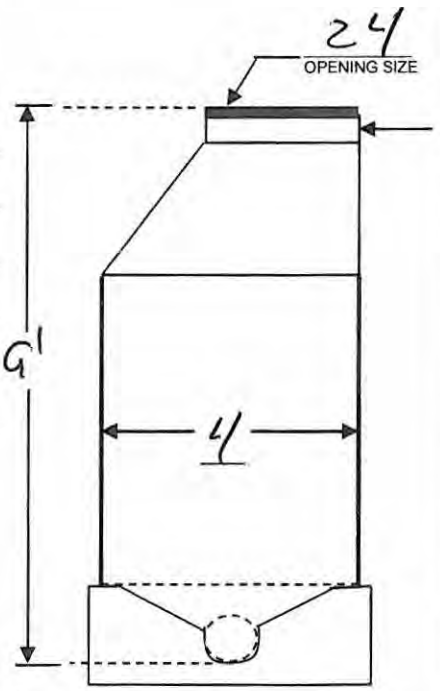
Heavy Deterioration

MH ACCESS: Dirt.

SURFACE TYPE: C

STEPS: 0

ADDITIONAL NOTES:



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

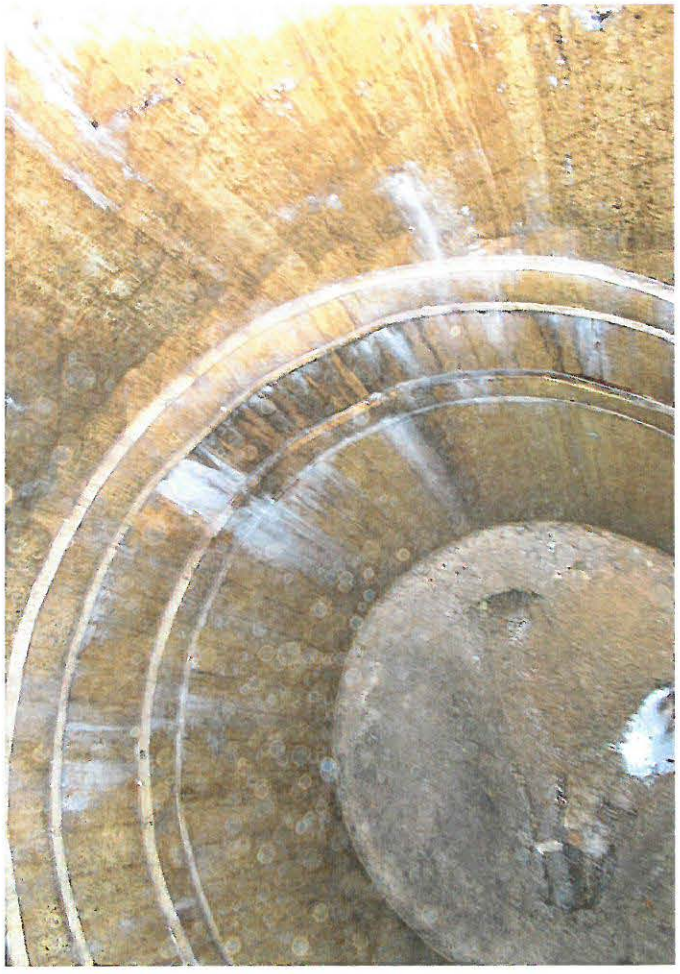
CONDITION OF INVERT: Medium Debris.

ADDITIONAL NOTES ON REVERSE OF PAGE




SEWER







MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 20W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

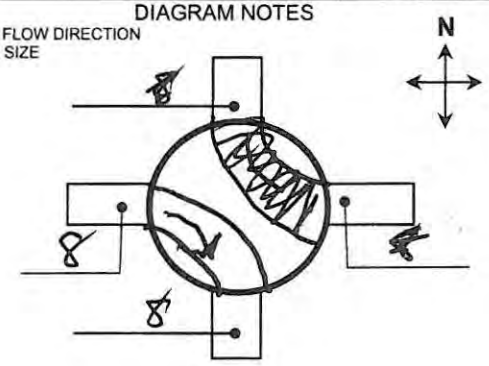
DIAMETER	DEPTH
4	8' 1"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☑ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

PVC lined invert & manhole in good condition

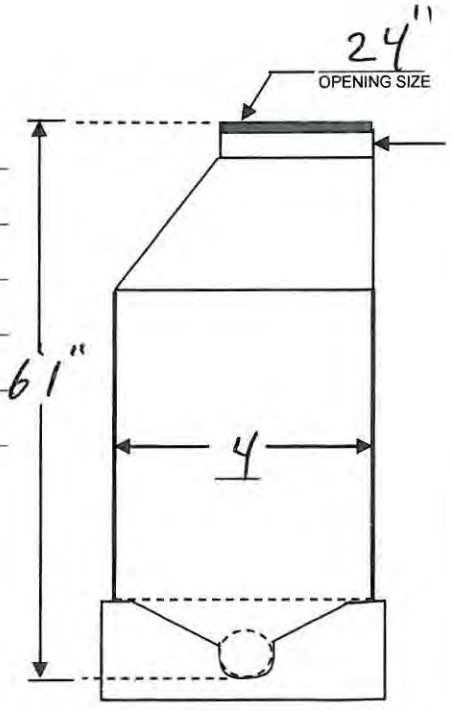
PVC @ Adjustment rings need to Be repaired/welded

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

CONDITION OF INVERT

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY



MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon.

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 21W

MANHOLE / LANE LOCATION: Sand

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

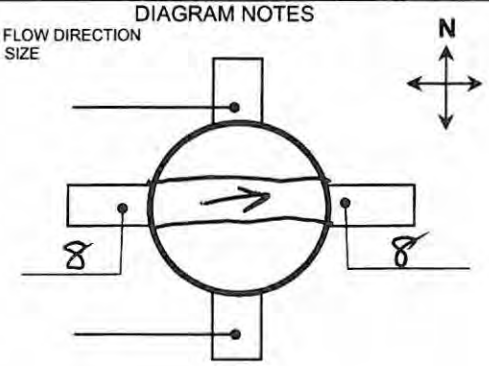
DEPTH: 6'7"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

invert is PVC Lined and Peeling

PVC in invert needs removed and

Bench & invert coated

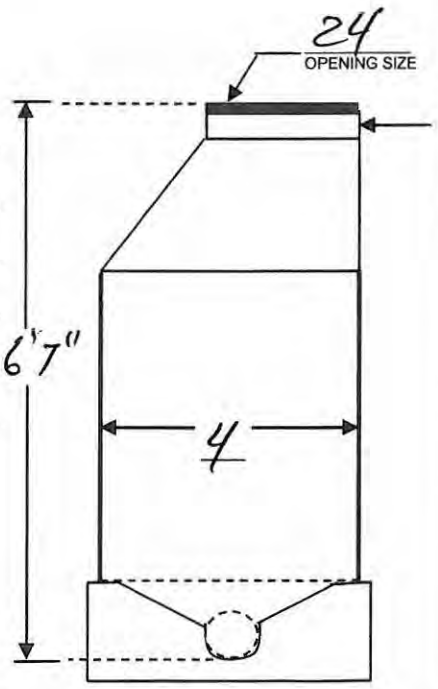
Manhole is in good condition

MH ACCESS: Sand

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Light DeBris

ADDITIONAL NOTES ON REVERSE OF PAGE









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant:

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 22 W

MANHOLE / LANE LOCATION: Sand

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

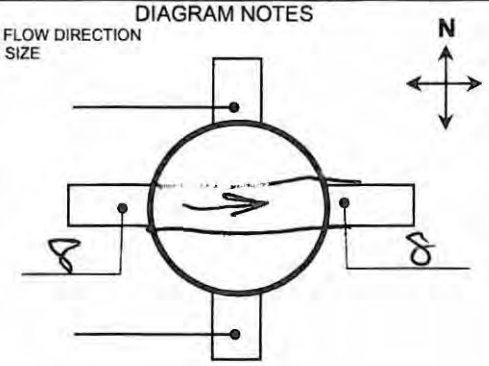
DEPTH: 5'8"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☑ PVC lined

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

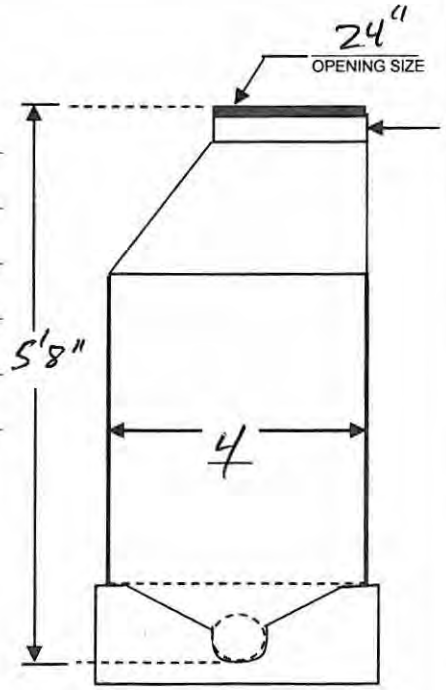
Adjustment needs coated.

MH ACCESS:

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



SPARK TEST

PULL TEST

CONDITION OF INVERT

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jon N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon.

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 23W

MANHOLE / LANE LOCATION: Sand

MANHOLE:

TYPE:
- ☐ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☐ PRE-CAST
- ☐ COATED
- ☐ PVC LINED
- ☐ OTHER

DIAMETER: /

DEPTH:

LONGITUDE:

LATITUDE:

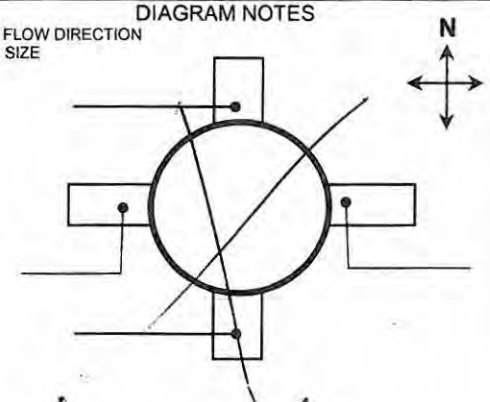
BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐ _____

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

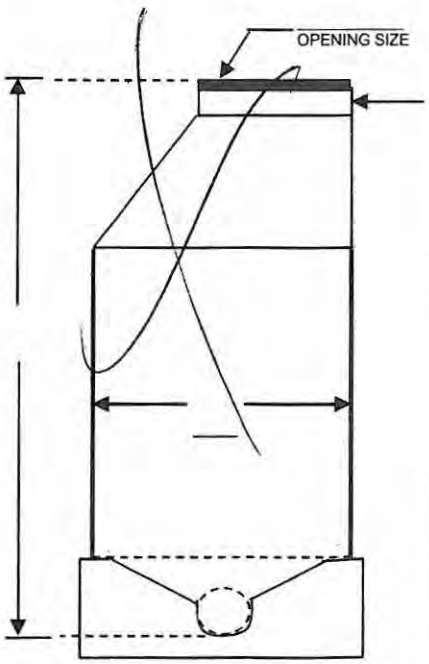
Clean out

MH ACCESS: clean. out

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE: _____
- ☐ WATER INFILTRATION: _____
- ☐ OTHER: _____

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

SPARK TEST

PULL TEST

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE

SS

MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212

☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS	TRAVEL TIME: ONE WAY / BOTH WAYS	Safety Assistant:	Traffic Control: Officer, Heavy, Medium, Light, None
QUARTER SEC. / MH #: 24 W	MANHOLE / LANE LOCATION		

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

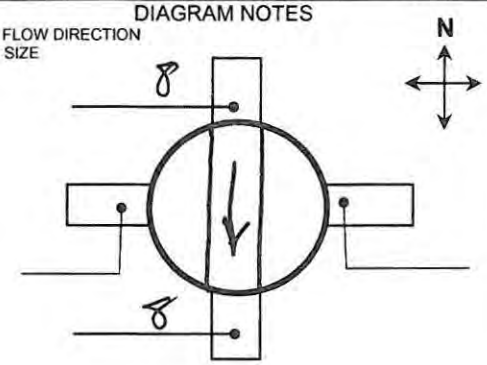
DIAMETER	DEPTH
4	6'5"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐ PVC

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

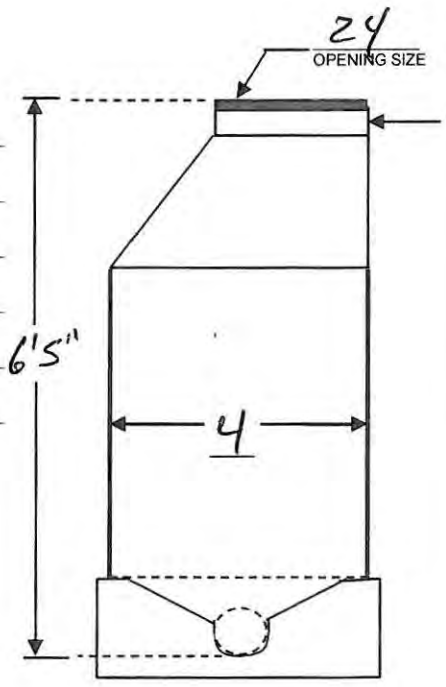
Manhole is in good condition 2 weld strips in the invert are loose and 2 on the Adjustment ring need repaired. 4 total

MH ACCESS: Dirt

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:	INSP. COMPLETION TIME:

CONDITION OF INVERT: clean.

ADDITIONAL NOTES ON REVERSE OF PAGE






SANITA
NEENAH
NEENA WI
SEWER



MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon A

Traffic Control: Officer / Heavy / Medium / Light / (None)

QUARTER SEC. / MH #: 25

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

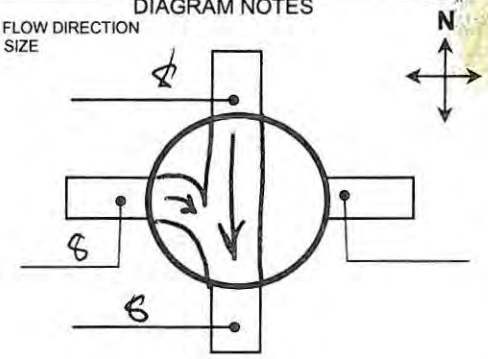
DEPTH: 6'7"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED Missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

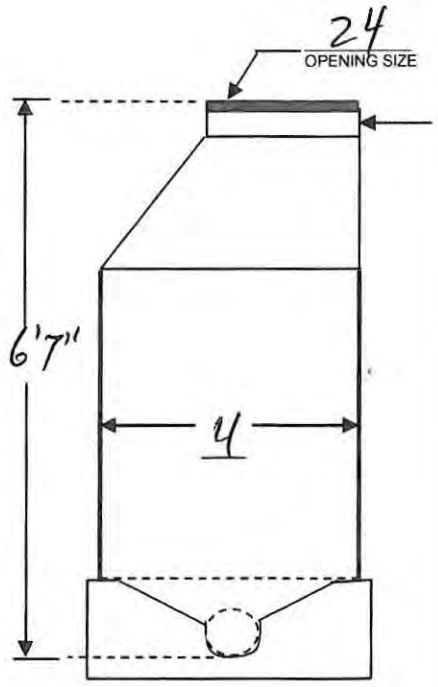
Manhole is in good condition Bench is coated But starting to peel. recoat Bench.

MH ACCESS: Dirt

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE: _____
- ☐ WATER INFILTRATION: _____
- ☐ OTHER: _____

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

SPARK TEST

PULL TEST

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE




SEWER
SANITARY



MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N.

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C

Traffic Control: Officer / Heavy / Medium / Light / (None)

QUARTER SEC. / MH #: 26W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

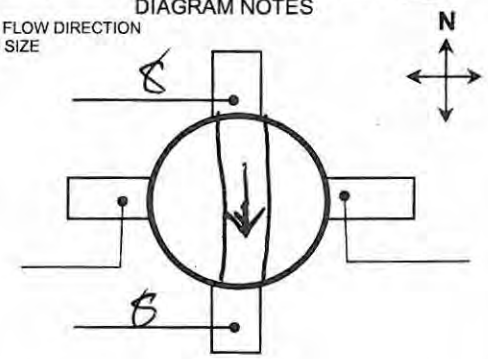
DEPTH: 3'7"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

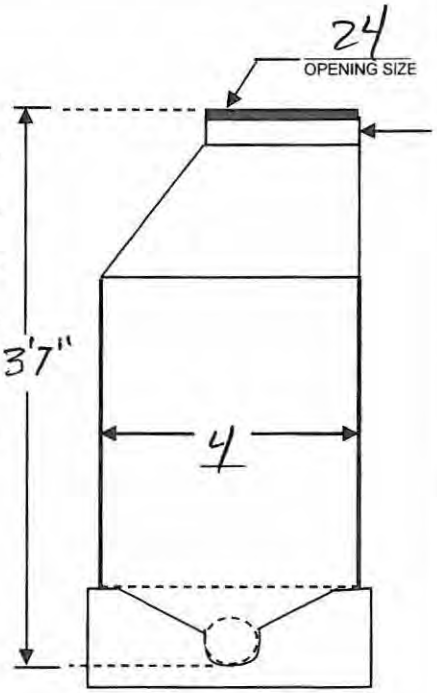
Manhole needs no work - good condition.

MH ACCESS: Dirt

SURFACE TYPE:

STEPS:

ADDITIONAL NOTES:



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

PULL TEST

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Light DeBris.

ADDITIONAL NOTES ON REVERSE OF PAGE





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: J or N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C.

Traffic Control: Officer / Heavy / Medium / Light / (None)

QUARTER SEC. / MH #: 27 W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

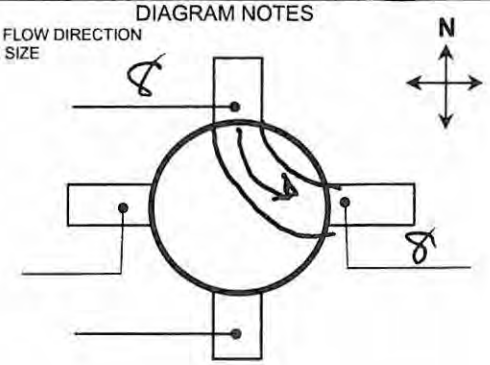
DEPTH: 6'5"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☒ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☑ LOWER
- ☐ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

Bench is coated But Peeling

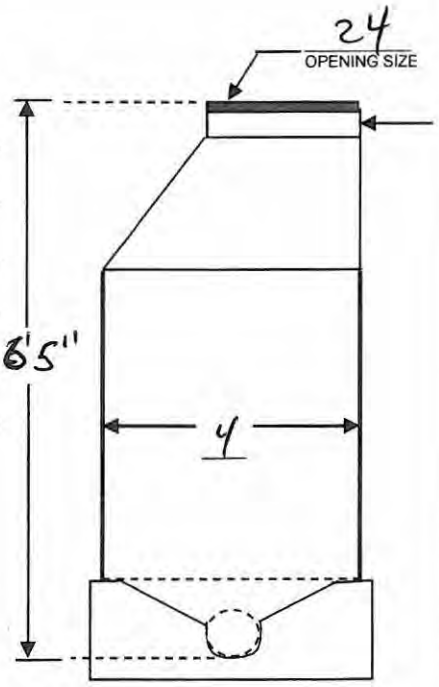
PVC is good.

MH ACCESS: Dirt

SURFACE TYPE:

STEPS: Ø

ADDITIONAL NOTES:



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

PULL TEST

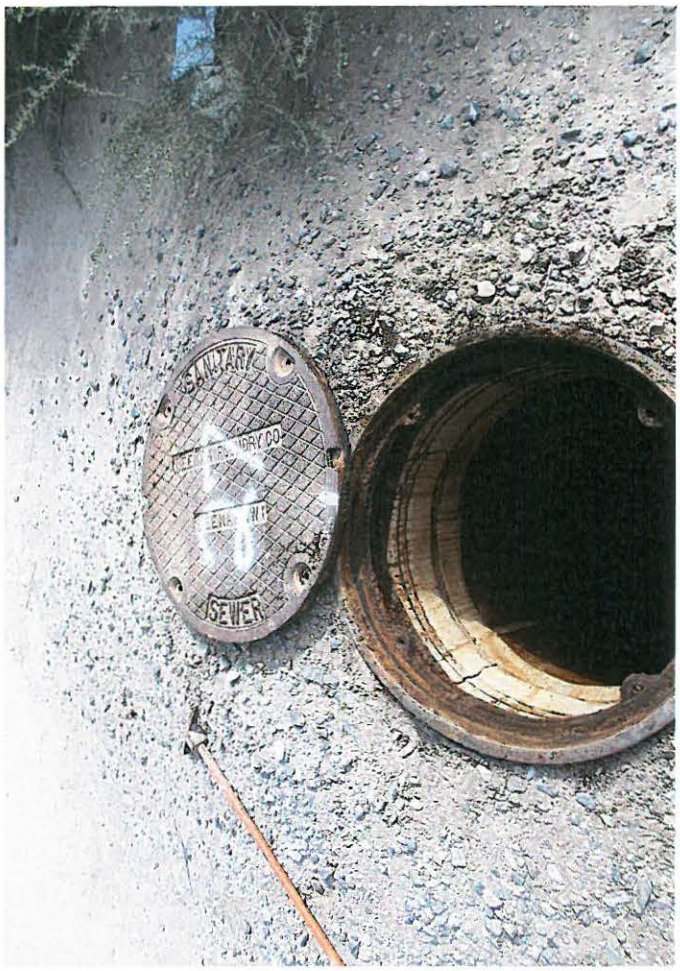
INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Heavy DeBris

ADDITIONAL NOTES ON REVERSE OF PAGE


SANITARY
SEWER







MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C

Traffic Control: Officer / Heavy / Medium / Light / (None)

QUARTER SEC. / MH #: 28W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 8'2"

LONGITUDE:

LATITUDE:

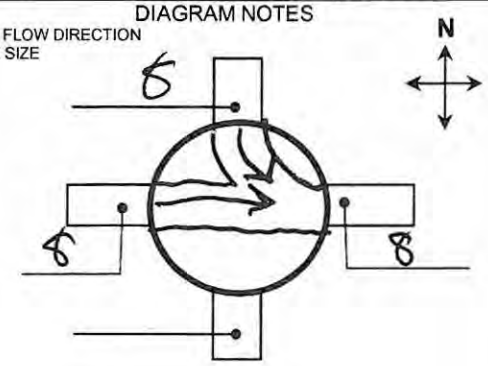
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☑ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

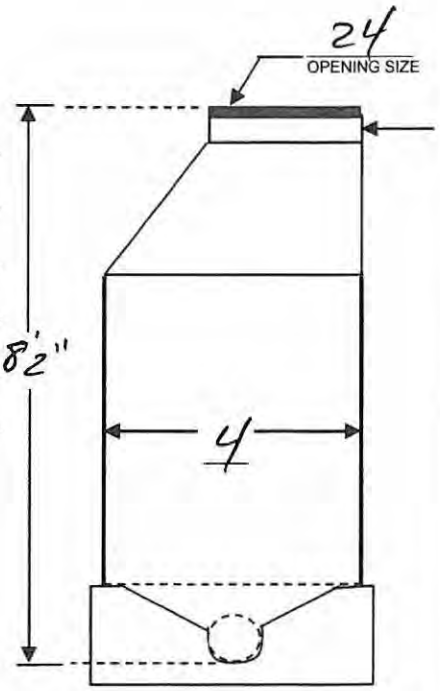
PVC Joint at Adjustment needs welded - Bench has Light deterioration needs coated - Manhole is in good condition.

MH ACCESS: Dirt

SURFACE TYPE:

STEPS: 6

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Light Debris

ADDITIONAL NOTES ON REVERSE OF PAGE


SANITARY SEWER
NEENAH FOUNDRY CO
NEENAH WI









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 29W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 9'8"

LONGITUDE:

LATITUDE:

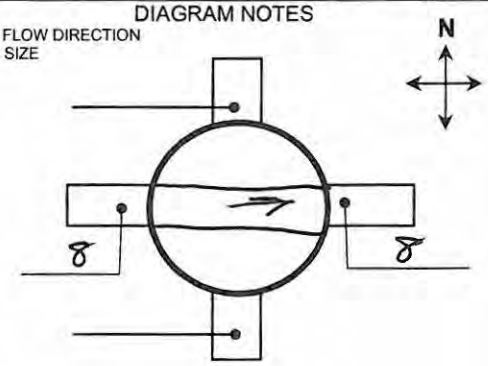
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good Condition

Bench needs reBuilt missing

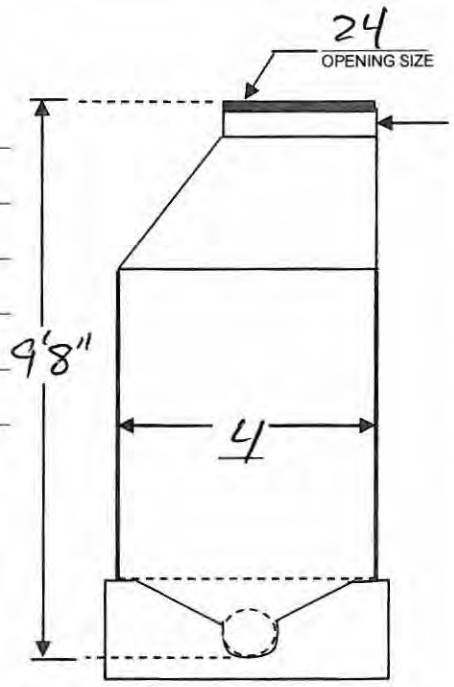
4 to 6 inches ~ Coat Adjustments.

MH ACCESS: Dirt

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES:



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE




SEWER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-18-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 30 W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 8'4"

LONGITUDE:

LATITUDE:

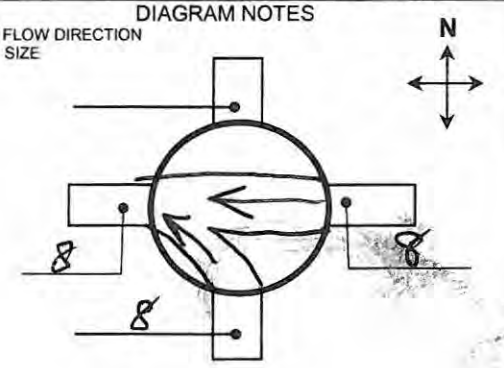
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

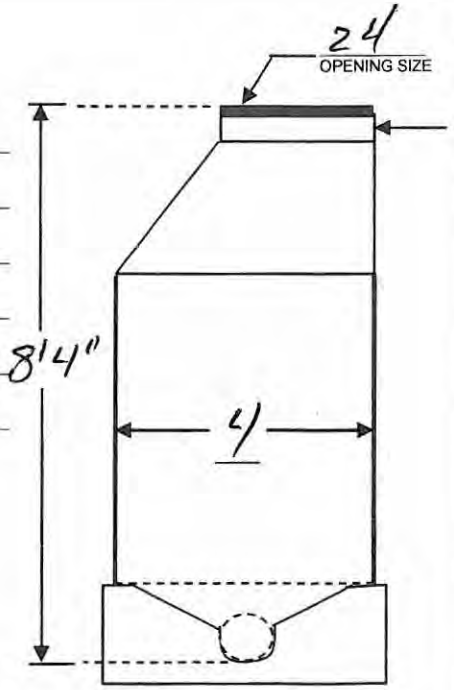
PVC Joint is missing weld strip
Adjustment needs PVC repair
Invert & Bench need recoated
Light Deterioration

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

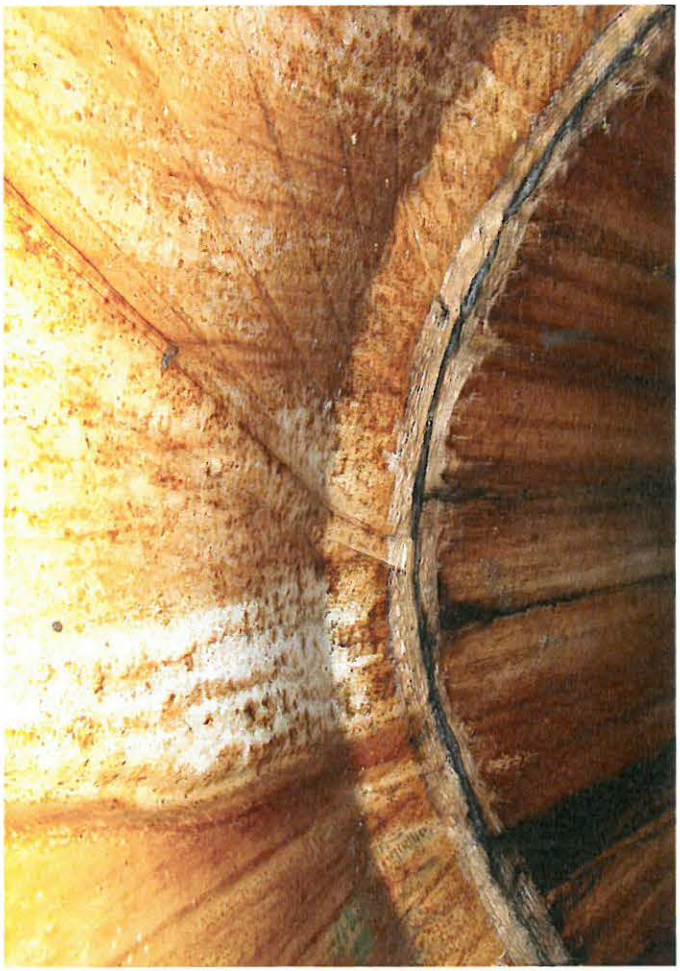
INSP. COMPLETION TIME:

CONDITION OF INVERT: Light DeBris.

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY
SEWER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / (None)

QUARTER SEC. / MH #: 31w

MANHOLE / LANE LOCATION: Dirt Field

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

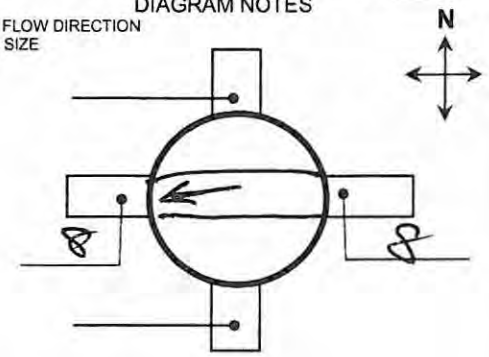
DEPTH: 6'8"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

2 PVC Joints need repaired Barrel

Coat Bench & Adjustments

Manhole in good condition

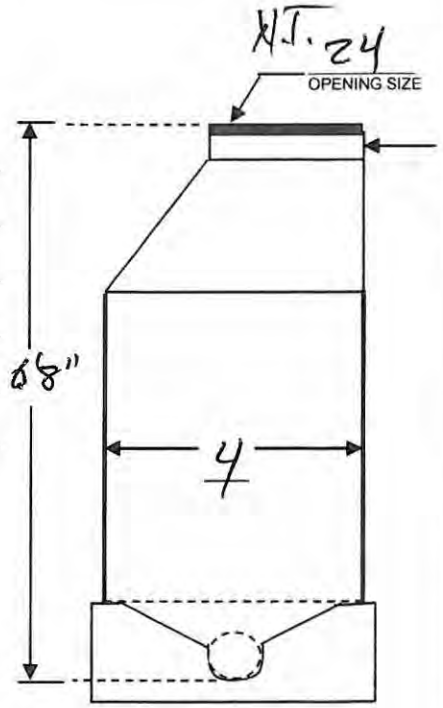
Medium Deterioration on Bench

MH ACCESS: Dirt

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

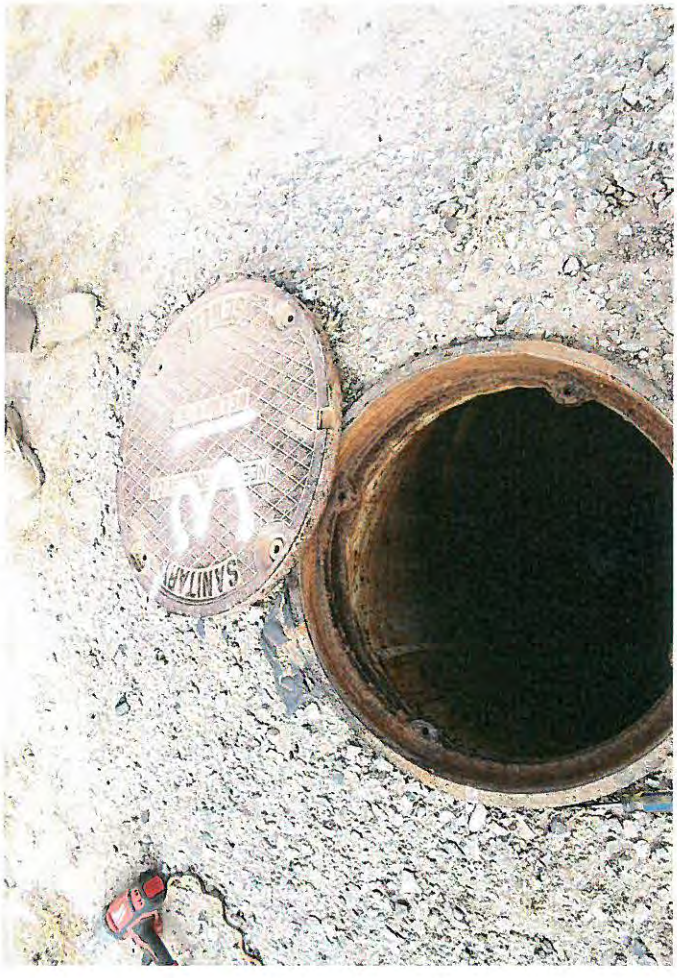
INSPECTION EQUIPMENT USED:

INSP. START TIME:

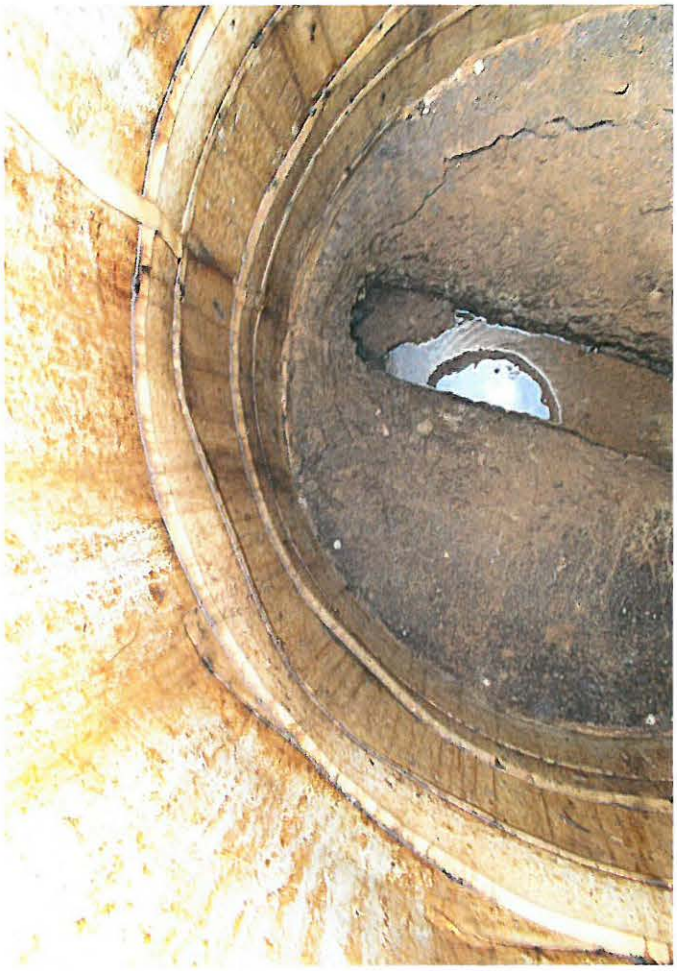
INSP. COMPLETION TIME:

CONDITION OF INVERT: Light DeBris

ADDITIONAL NOTES ON REVERSE OF PAGE


SANITARY









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☒ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 32w

MANHOLE / LANE LOCATION: Dirt field

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 6'5"

LONGITUDE:

LATITUDE:

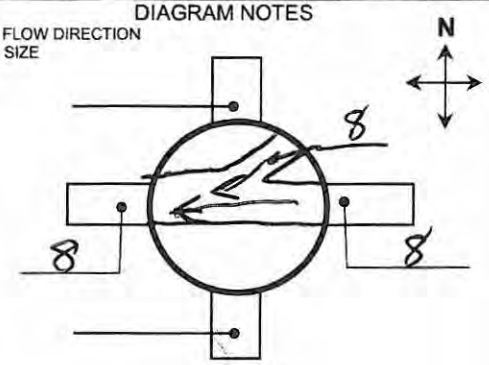
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

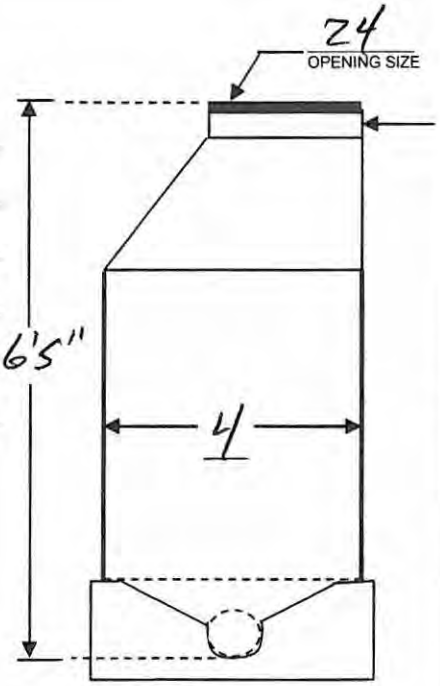
Manhole is in good condition
Bench & invert are Heavily
Deteriorated coat Bench

MH ACCESS:

SURFACE TYPE:

STEPS:

ADDITIONAL NOTES:



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Heavy Deterioration

ADDITIONAL NOTES ON REVERSE OF PAGE







MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 37w

MANHOLE / LANE LOCATION: Dirt lot

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

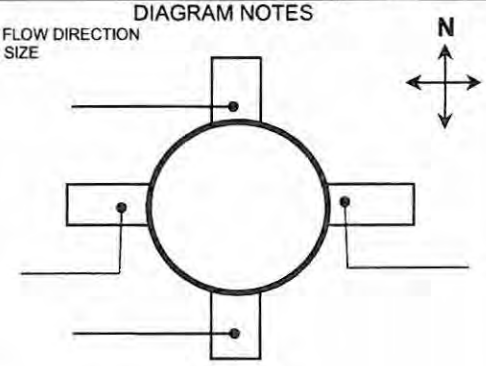
DEPTH: 5'6"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Bench needs coated

Adjustments need weldstrips

repaired

Manhole is in good condition

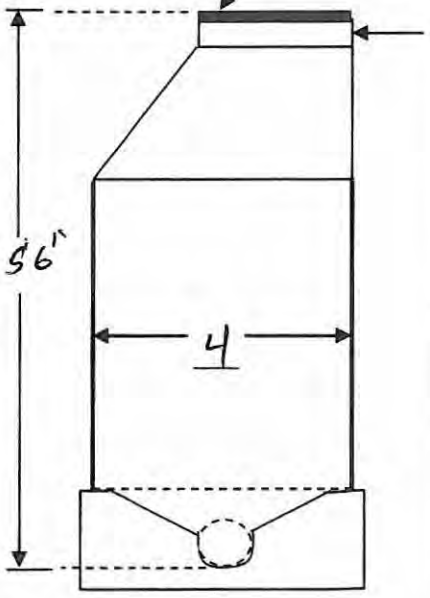
MH ACCESS: Dirt.

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES

N.T. 24 OPENING SIZE



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Debris

ADDITIONAL NOTES ON REVERSE OF PAGE




SANITARY
SEWER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jor N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 38W

MANHOLE / LANE LOCATION: Dirt lot

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 6'8"

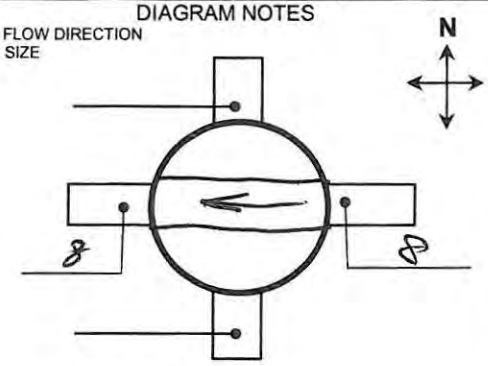
DEPTH:

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Bench needs coated

3 weldstrips on Adjustments need repaired

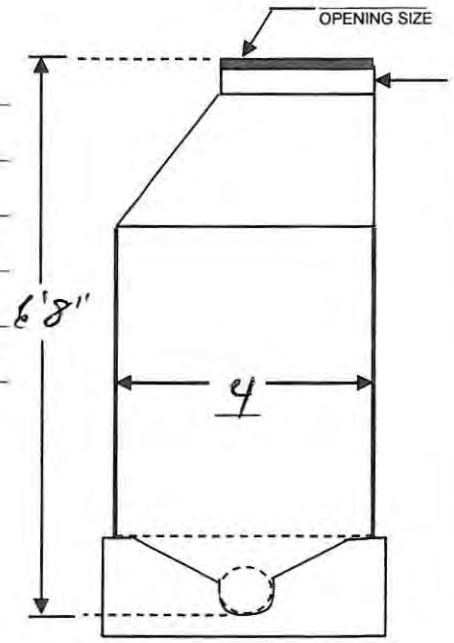
Manhole IS in good condition

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE




SEWER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer, Heavy, Medium, Light, None

QUARTER SEC. / MH #: 39 W

MANHOLE / LANE LOCATION: Sand Lot

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

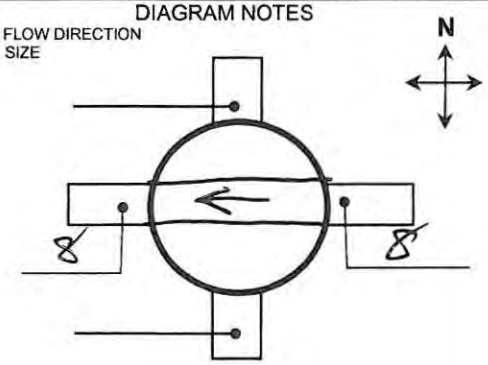
DEPTH: 8'7"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC SDR35

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

2 PVC Joint needs repaired

Adjustment & Bench needs coated

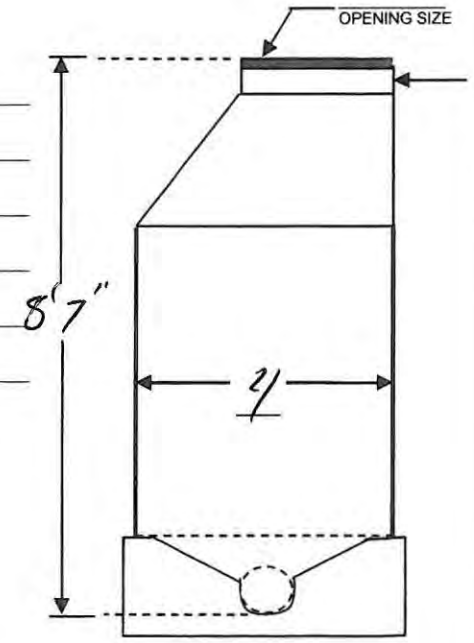
Manhole is in good condition

MH ACCESS:

SURFACE TYPE:

STEPS: Ø

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

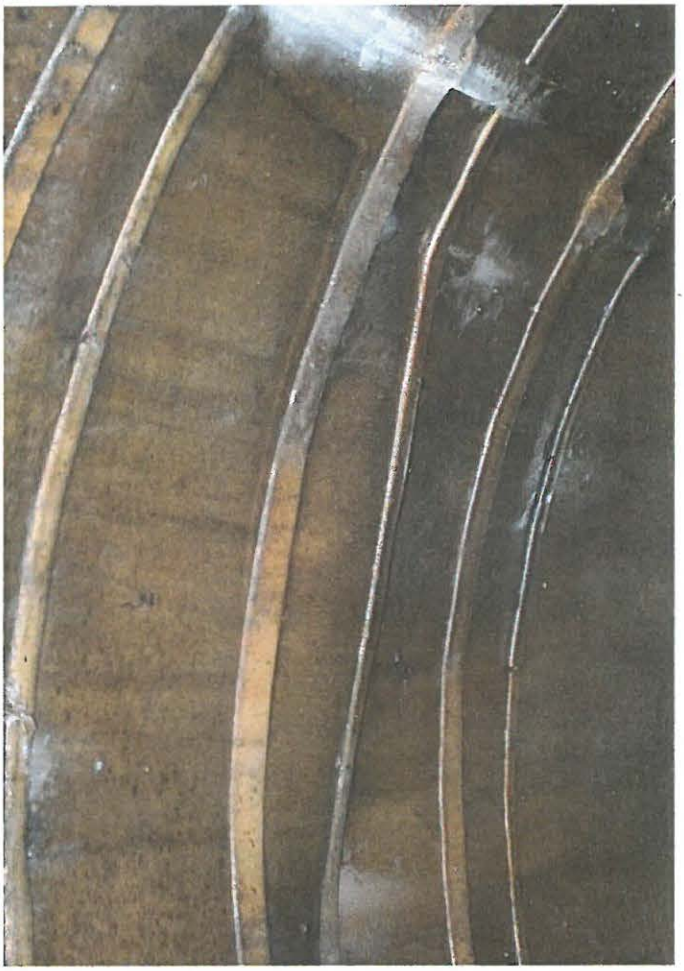
INSPECTION EQUIPMENT USED:

INSP. START TIME:

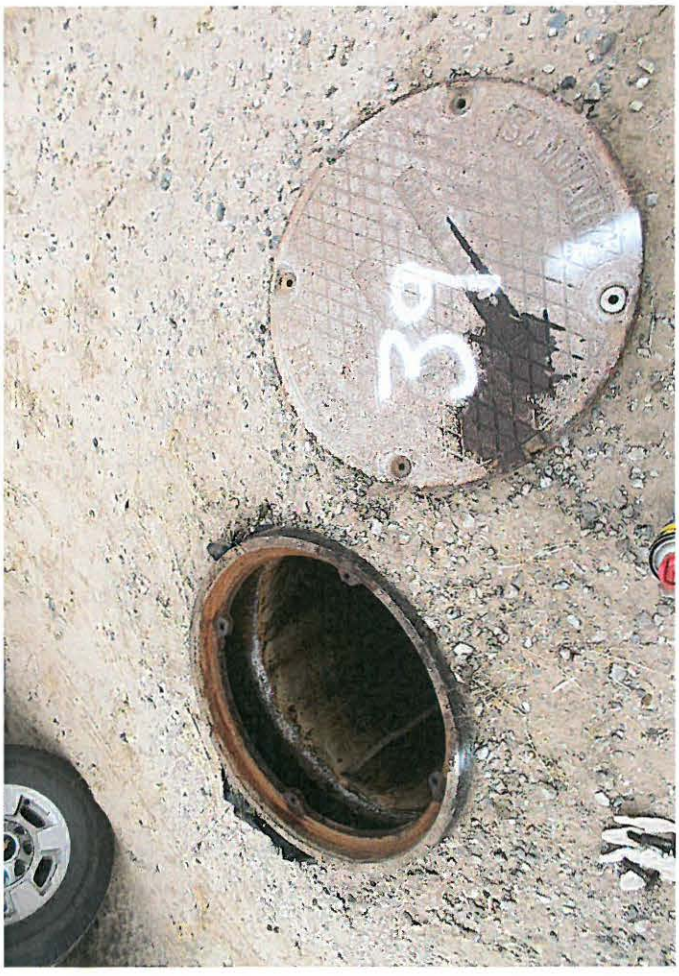
INSP. COMPLETION TIME:

CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE






39



MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 40w

MANHOLE / LANE LOCATION: Center

MANHOLE:

TYPE:
- ☐ STANDARD
- ☑ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

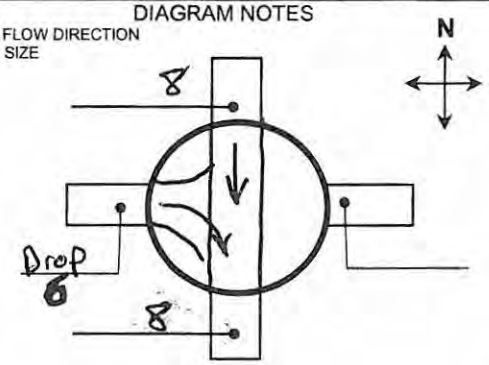
DEPTH: 16'5"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is good

Bench needs coated

Adjustment rings need weld strips

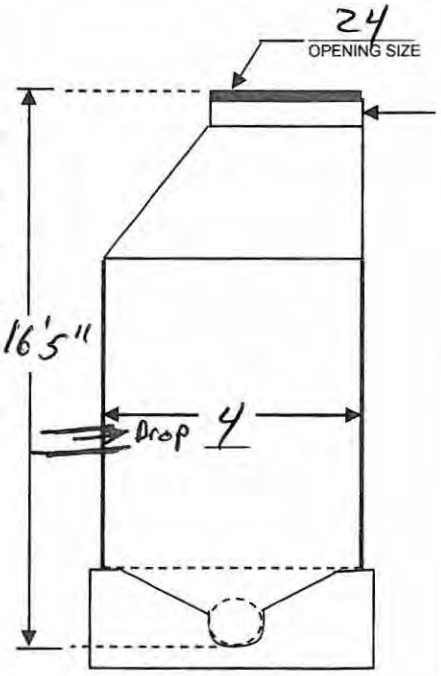
6" drop on west side needs repair around penetration.

MH ACCESS: Asphalt

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



SPARK TEST

PULL TEST

CONDITION OF INVERT

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

ADDITIONAL NOTES ON REVERSE OF PAGE




SEWER





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR:

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon.

Traffic Control: Officer / Heavy / Medium / Light / (None)

QUARTER SEC. / MH #: 41 w

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

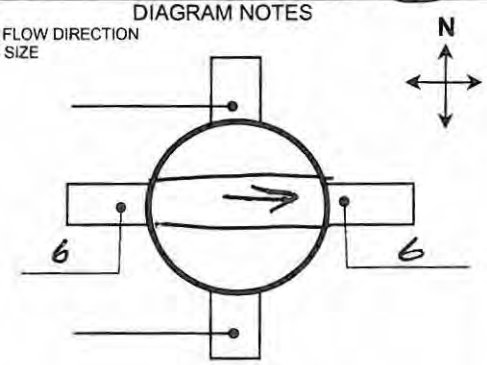
DIAMETER	DEPTH
4	7'10"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☑ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition no repairs needed at this time.

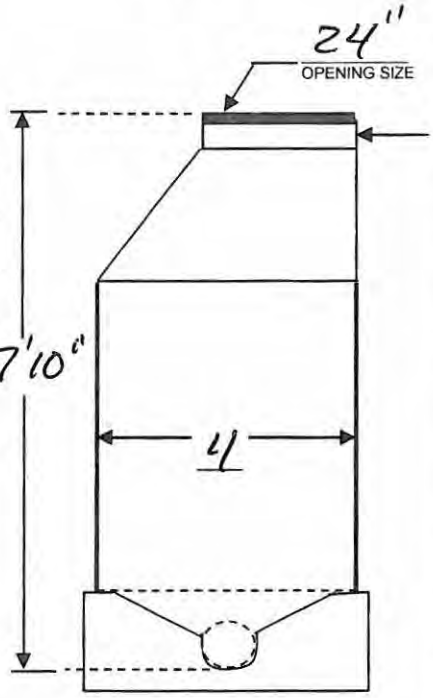
One small Buldge on cone hard concrete.

MH ACCESS: Paved parking lot.

SURFACE TYPE:

STEPS: 0

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

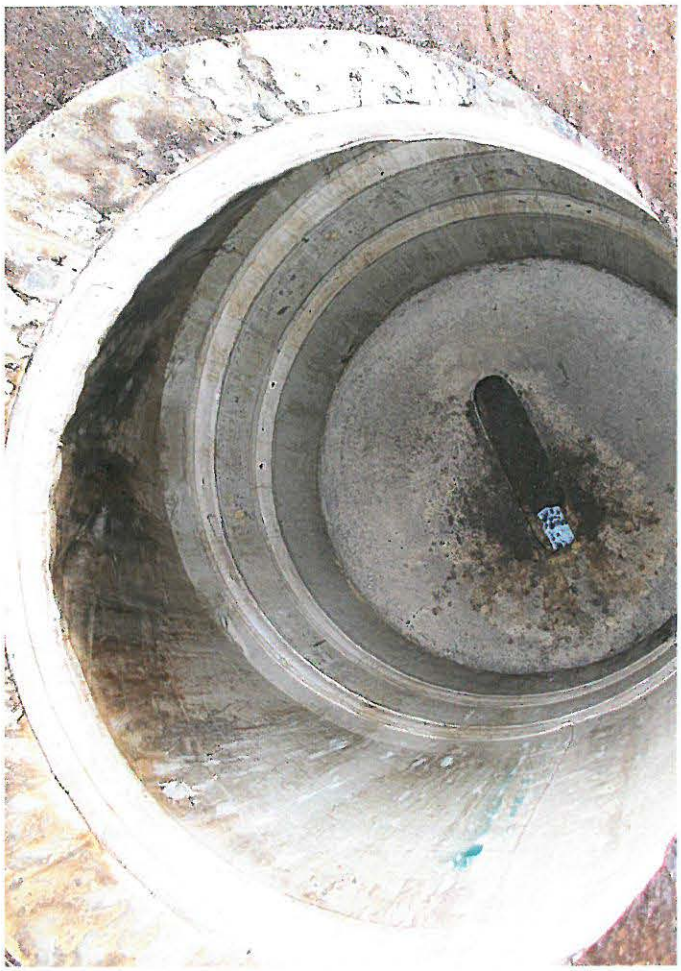
INSP. COMPLETION TIME:

SPARK TEST

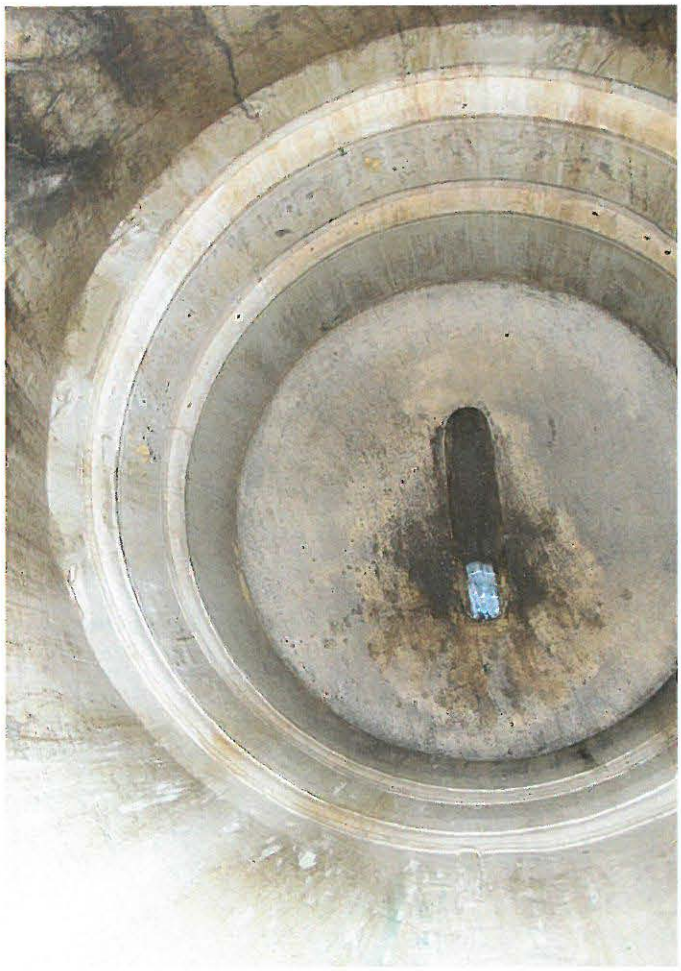
PULL TEST

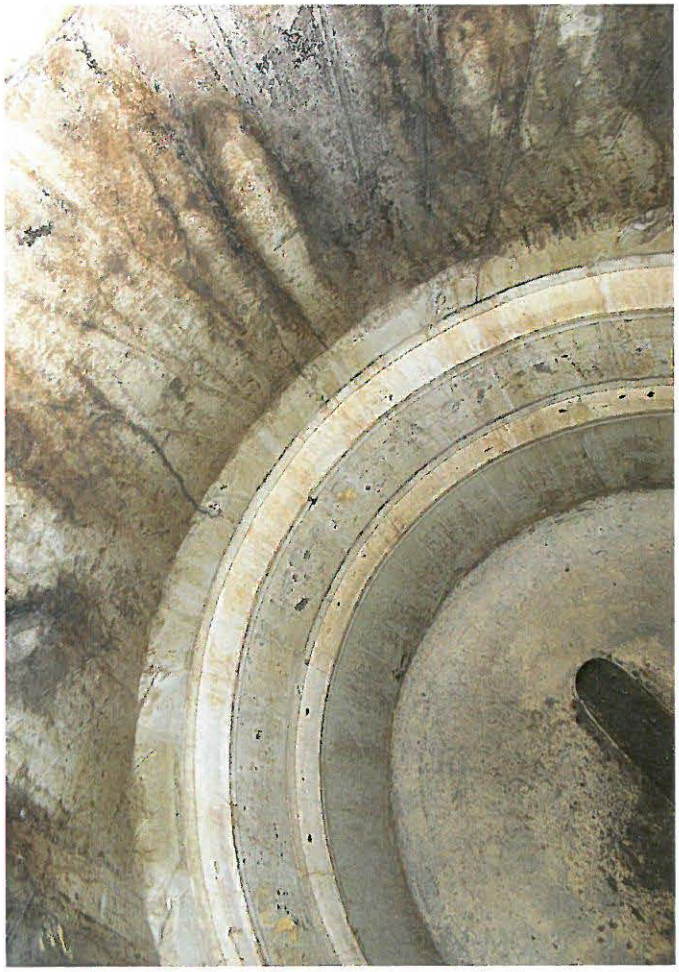
CONDITION OF INVERT

ADDITIONAL NOTES ON REVERSE OF PAGE




41





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer, Heavy, (Medium), Light, None

QUARTER SEC. / MH #: 42 W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

DEPTH: 7'10"

LONGITUDE:

LATITUDE:

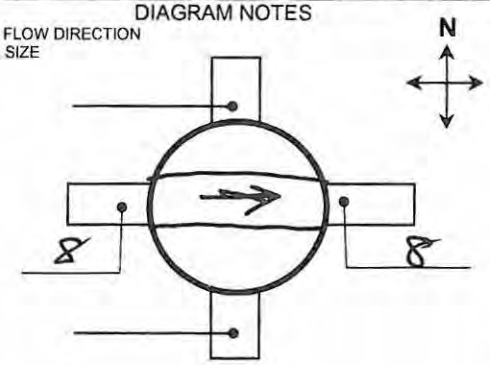
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

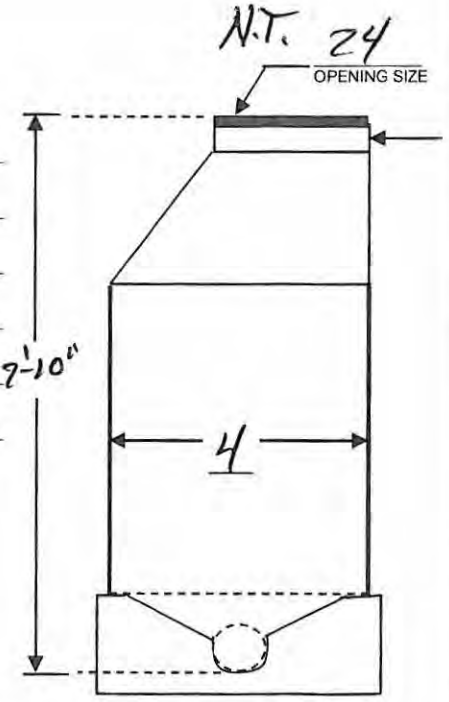
Manhole shaft & Cone are good Bench & Adjustments need coated. PVC Joints are good.

MH ACCESS: Paved

SURFACE TYPE:

STEPS: Ø

ADDITIONAL NOTES:



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

PULL TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Heavy Debris Medium deterioration

ADDITIONAL NOTES ON REVERSE OF PAGE




42





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon

Traffic Control: Officer / Heavy / (Medium) / Light / None

QUARTER SEC. / MH #: 43 W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER	DEPTH
4	6'1"

LONGITUDE:

LATITUDE:

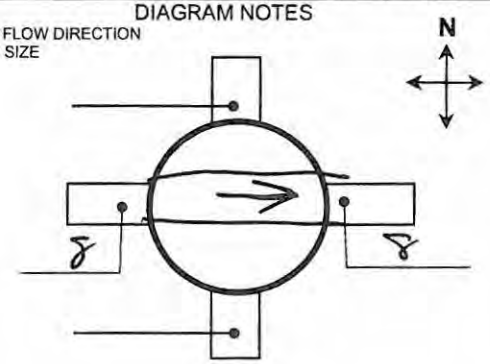
BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

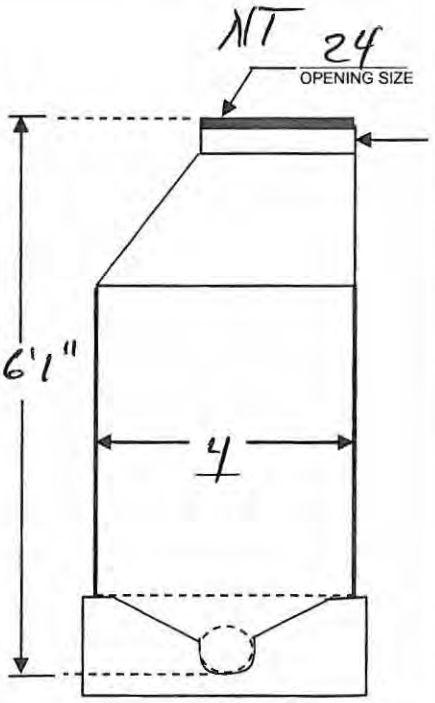
Bench & Adjustments need coated
medium Deterioration

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

PULL TEST

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Heavy Debris / Medium Deterioration.

ADDITIONAL NOTES ON REVERSE OF PAGE




43





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon -

Traffic Control: Officer, ~~Heavy~~, (Medium), Light, None

QUARTER SEC. / MH #: 44 W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

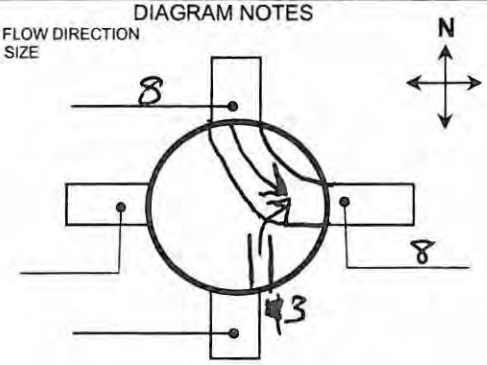
DEPTH: 5' 11"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☑ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

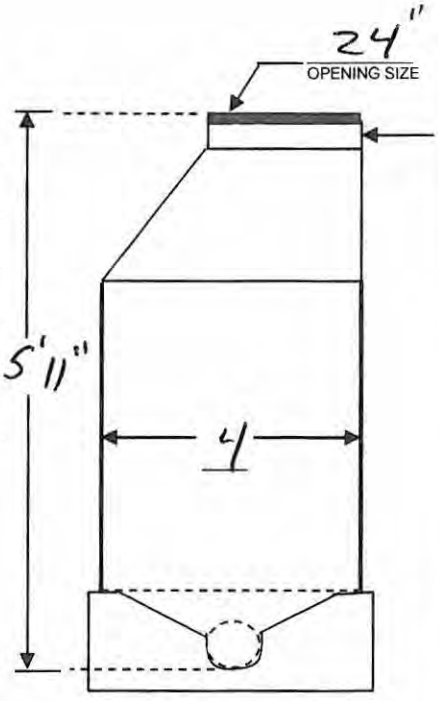
Manhole is good - Bench & Adjustments need coated

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: DcBri / Light Deterioration.

ADDITIONAL NOTES ON REVERSE OF PAGE







MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: **S17-051**

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C.

Traffic Control: Officer / Heavy / Medium / (Light) / None

QUARTER SEC. / MH #: 45W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

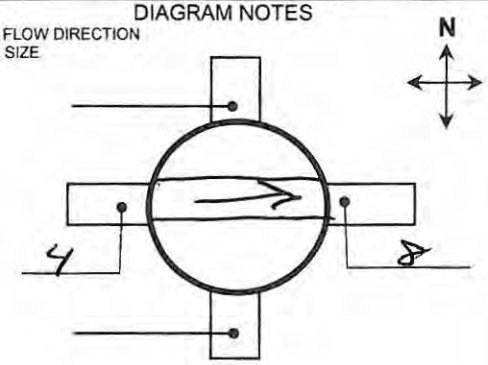
DEPTH: 5'10"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐ _____

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Bench & Adjustment need coated Light Deterioration

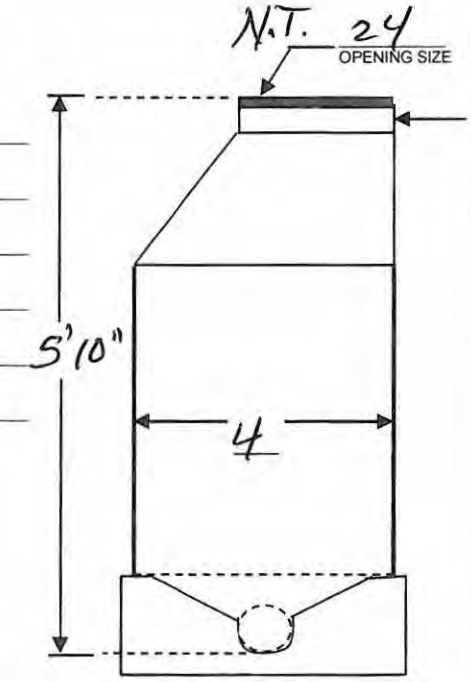
Manhole is in good condition

MH ACCESS: Paved.

SURFACE TYPE:

_____ # STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE: _____
- ☐ WATER INFILTRATION: _____
- ☐ OTHER: _____

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

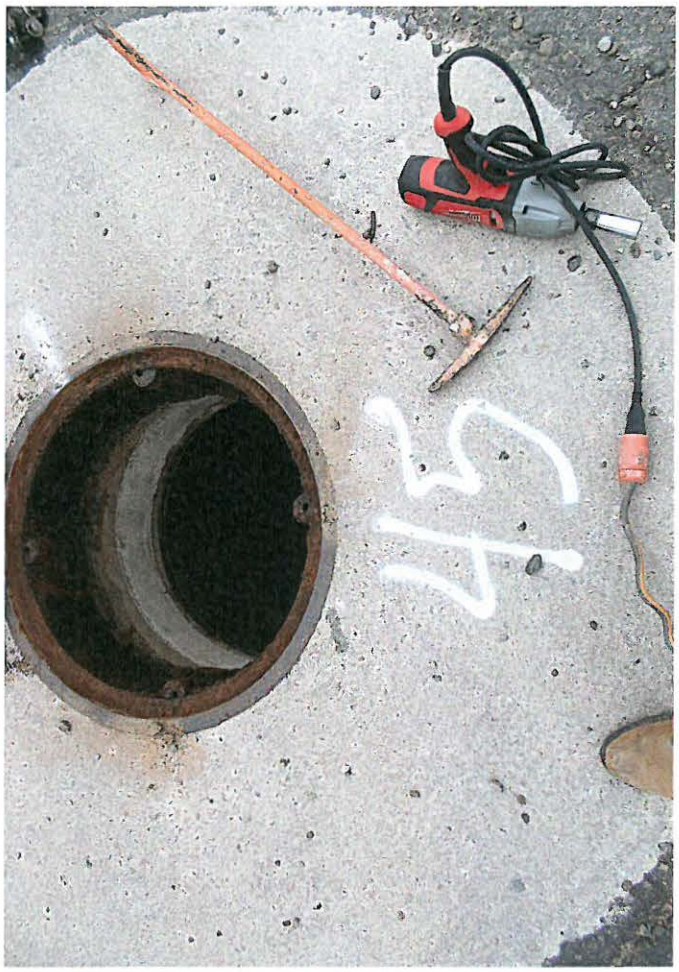
INSP. COMPLETION TIME:

SPARK TEST

PULL TEST

CONDITION OF INVERT: Light Debris

ADDITIONAL NOTES ON REVERSE OF PAGE


45





MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jon N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C.

Traffic Control: Officer / Heavy / Medium / Light / None

QUARTER SEC. / MH #: 46W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

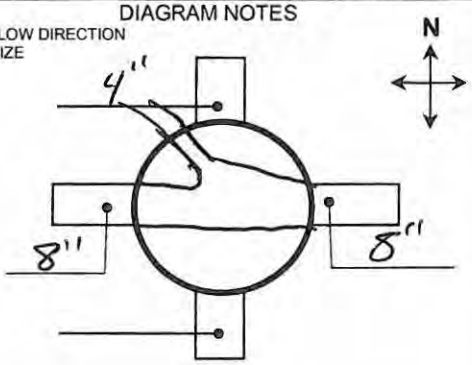
DEPTH: 5'2"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED Bolts missing
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Bench: Adjustments need coated

manhole is in good condition

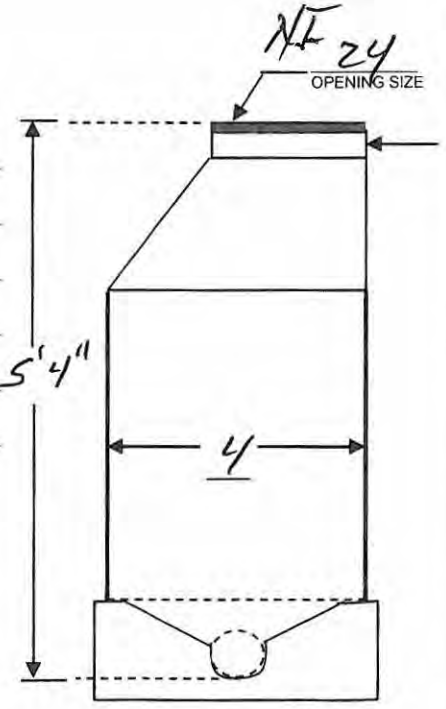
Bolts are missing

MH ACCESS: Paved

SURFACE TYPE:

STEPS:

ADDITIONAL NOTES:



SPARK TEST:

PULL TEST:

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Light Deterioration / Debris.

ADDITIONAL NOTES ON REVERSE OF PAGE









MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Jor N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C.

Traffic Control: Officer / Heavy / Medium / (Light) / None

QUARTER SEC. / MH #: 47W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

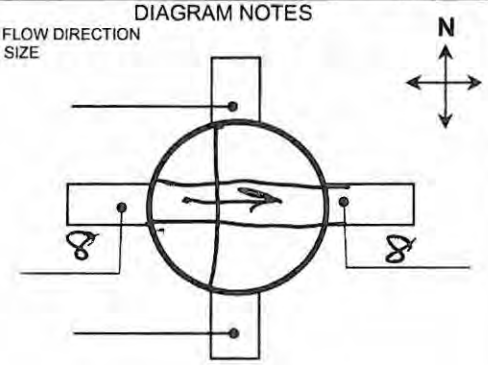
DEPTH: 7'4"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

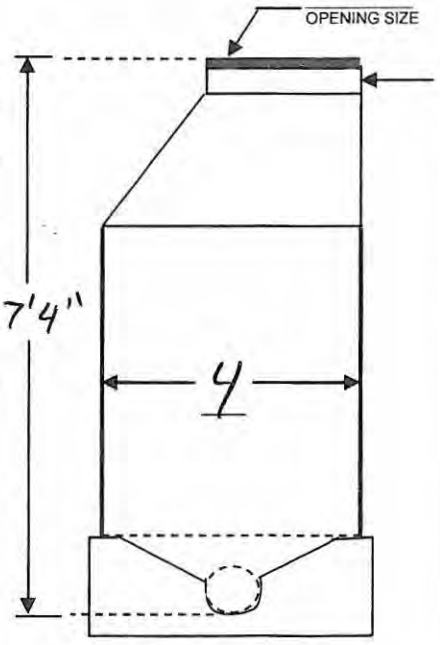
Manhole is in good condition
Bench & Adjustment rings need coated - Light DeBris
Medium Deterioration on Bench.

MH ACCESS:

SURFACE TYPE:

STEPS

ADDITIONAL NOTES



HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

SPARK TEST

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

PULL TEST

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Medium Deterioration

ADDITIONAL NOTES ON REVERSE OF PAGE













MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☑ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: DevonC

Traffic Control: Officer, Heavy, Medium, (Light), None

QUARTER SEC. / MH #: 48w

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

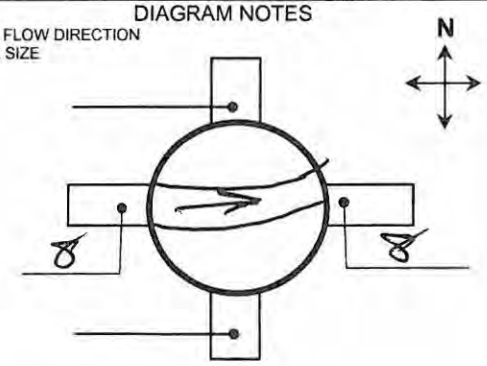
DEPTH: 8'2"

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☑ DEBRIS
- ☑ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☐ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition

Bench & Adjustments need Coated

Medium Deterioration

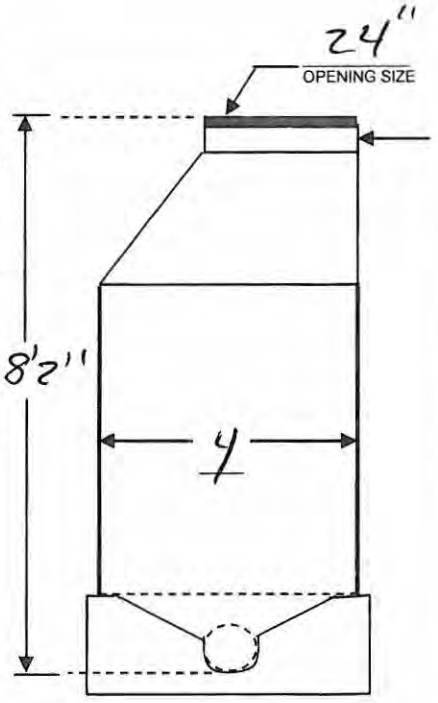
Light DeBris

MH ACCESS: Paved

SURFACE TYPE:

STEPS: Ø

ADDITIONAL NOTES



SPARK TEST

PULL TEST

CONDITION OF INVERT

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

ADDITIONAL NOTES ON REVERSE OF PAGE




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MANHOLE INSPECTION REVIEW SHEET

DATE: 2-13-2018

INSPECTOR: Joe N

☐ JPCI Services (480)986-1212
☐ Environmental Coatings LLC. (480) 984-7608

PROJECT NAME: Cocopah Indian Tribe Manhole Rehabilitation

PROJECT NUMBER: S17-051

LOCATION (Cross Streets):

CUSTOMER NAME: Cocopah Indian Tribe

CUSTOMER CONTACT(S): Edmund Domingues

PHONE NUMBER: 928-672-0616

ON SITE INSPECTION:

TRAVEL IN MILES: ONE WAY / BOTH WAYS

TRAVEL TIME: ONE WAY / BOTH WAYS

Safety Assistant: Devon C

Traffic Control: Officer / Heavy / Medium / (Light) / None

QUARTER SEC. / MH #: 49W

MANHOLE / LANE LOCATION:

MANHOLE:

TYPE:
- ☑ STANDARD
- ☐ DROP
- ☐ LIFT STATION
- ☐ WET WELL
- ☐

MATERIAL:
- ☐ BRICK
- ☑ PRE-CAST
- ☐ COATED
- ☑ PVC LINED
- ☐ OTHER

DIAMETER: 4

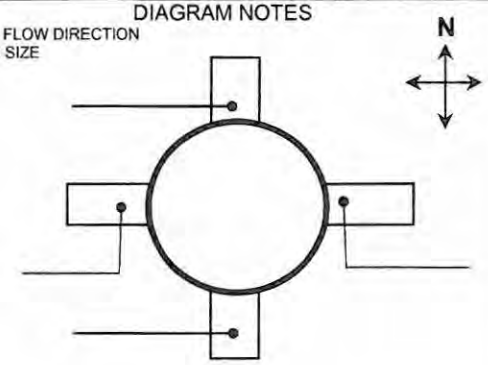
DEPTH: 9'

LONGITUDE:

LATITUDE:

DIAGRAM NOTES

SHOW FLOW DIRECTION & PIPE SIZE



BENCH:
- ☐ DEBRIS
- ☐ DETERIORATED
- ☐ MISALIGNED
- ☐ COATED
- ☐

FRAME & COVER:
- ☐ WELDED
- ☐ RAISE
- ☐ LOWER
- ☑ BOLTED
- ☐ REPLACE

SEWER MAIN LINE:
- ☐ VCP
- ☐ RCP
- ☐ LINED
- ☐ DETERIORATED
- ☑ PVC

DESCRIBE CONDITION OF COATING, STRUCTURE & PIPING, ANY PROBLEMS IN MANHOLE:

Manhole is in good condition
Bench & Adjustments need coated
Medium Deterioration
Heavy DeBris

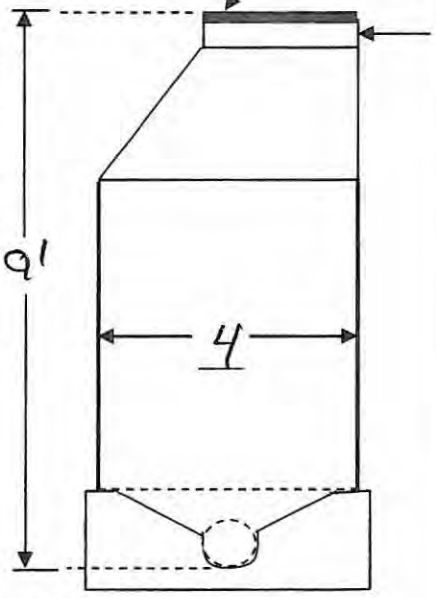
MH ACCESS:

SURFACE TYPE:

Ø
STEPS

ADDITIONAL NOTES

N.T. 24
OPENING SIZE



SPARK TEST

PULL TEST

HYDRAULIC OBSERVATION:
- ☐ SURCHARGE:
- ☐ WATER INFILTRATION:
- ☐ OTHER:

LIST VIDEO # / # OF PHOTOS FOR INSPECTION:

LIST SPECIAL PURCHASES, RENTALS AND/OR SUBCONTRACTORS, USED:

INSPECTION EQUIPMENT USED:

INSP. START TIME:

INSP. COMPLETION TIME:

CONDITION OF INVERT: Medium Deterioration.

ADDITIONAL NOTES ON REVERSE OF PAGE




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EXHIBIT B: FEDERAL WAGE RATE – YUMA COUNTY

"General Decision Number: AZ20250062 09/12/2025

Superseded General Decision Number: AZ20240062

State: Arizona

Construction Type: Heavy

County: Yuma County in Arizona.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	• Executive Order 14026 generally applies to the contract. • The contractor must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	• Executive Order 13658 generally applies to the contract. • The contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2025
1	06/06/2025
2	06/20/2025
3	09/12/2025

ELEC0570-014 06/01/2025

	Rates	Fringes
Electrician	$ 33.00	21.33%+6.00

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* ELEC0769-001 08/04/2025

	Rates	Fringes
Electrician: Lineperson	$ 62.08	21.5%+9.14

---

* ELEC0769-003 08/04/2025

	Rates	Fringes
Electrician: Groundperson	$ 36.00	21.5%+9.14

---

* ELEC0769-004 08/04/2025

	Rates	Fringes
Electrician: Line Equipment Operator	$ 46.56	21.5%+9.14

ENGI0012-035 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Oiler	$ 32.29	18.12

ENGI0012-037 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Field Equipment Serviceperson	$ 35.56	18.12

ENGI0012-042 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Crane/Derrick	$ 36.64	18.12

ENGI0012-043 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Mechanic	$ 37.67	18.12

ENGI0012-044 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Bobcat/Skid Steer/Skid Loader	$ 32.29	18.12

ENGI0012-045 12/01/2024

	Rates	Fringes

POWER EQUIPMENT OPERATOR:
Backhoe/Backhoe & Loader
Combo/Track Backhoe.....$ 35.56 18.12

ENGI0012-046 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Bulldozer.....	$ 35.56	18.12

ENGI0012-047 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Compactor/Roller.....	$ 35.56	18.12

ENGI0012-048 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Drill Rig/Auger.....	$ 35.56	18.12

ENGI0012-054 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Trencher.....	$ 35.56	18.12

ENGI0012-055 12/01/2024

	Rates	Fringes
TRUCK DRIVER Hydrovac.....	$ 35.56	18.12

ENGI0012-059 12/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Grade Checker.....	$ 36.64	18.12

ENGI0012-060 12/01/2024

	Rates	Fringes
Power Equipment Operator: Loader/Front End Loader All types rated capacity 3 cubic yds or less.....	$ 32.29	18.12
All types rated capacity over 3, less than 6 cubic yds.....	$ 35.56	18.12
Rated capacity 6, less than 10 cubic yds.....	$ 36.64	18.12

ENGI0012-061 12/01/2024

	Rates	Fringes

POWER EQUIPMENT OPERATOR:
Motor Grader/Blade.....$ 36.64 18.12

ENGI0012-076 12/01/2024

	Rates	Fringes
Power Equipment Operator: Excavator/Trackhoe		
1/2 cubic yard or smaller...	$ 35.56	18.12
Greater than 1/2 cubic yard.	$ 36.64	18.12

LABO1184-013 06/01/2025

	Rates	Fringes
Laborer: Jackhammer	$ 29.05	9.26

LABO1184-015 06/01/2025

	Rates	Fringes
Power Equipment Operator: Forklift	$ 30.88	9.26

LABO1184-016 06/01/2025

	Rates	Fringes
Power Equipment Operator: Horizontal Directional Drill	$ 31.98	9.26

LABO1184-019 06/01/2025

	Rates	Fringes
LABORER: Mason Tender	$ 27.41	9.26

LABO1184-020 06/01/2025

	Rates	Fringes
Laborer: Pipelayer	$ 27.41	9.26

LABO1184-022 06/01/2025

	Rates	Fringes
Laborer: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 29.05	9.26

LABO1184-034 06/01/2025

	Rates	Fringes
Truck Driver: Concrete	$ 30.88	9.26

LABO1184-035 06/01/2025

	Rates	Fringes
Truck Driver:		

Dump.....$ 30.88 9.26

LABO1184-036 06/01/2025

	Rates	Fringes
Truck Driver:		
Water.....$	30.88	9.26

LABO1184-042 06/01/2025

	Rates	Fringes
Traffic Control.....$	27.41	9.26

LABO1184-050 06/01/2025

	Rates	Fringes
Carpenter: Formwork Concrete.....$	31.98	9.26

SUAZ2023-012 11/19/2024

	Rates	Fringes
Laborer: General.....$	21.54	0.00
Power Equipment Operator:		
Scraper.....$	32.30	0.00

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

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

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

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the

type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

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

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

Union Average Rate Identifiers

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

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

Survey Rate Identifiers

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

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

State Adopted Rate Identifiers

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

WAGE DETERMINATION APPEALS PROCESS

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

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

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

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

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

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

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

The request should be accompanied by a full statement of the

interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

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

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

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END OF GENERAL DECISION"