The County of DuPage
Finance – Procurement, 3-400
421 North County Farm Road
Wheaton, Illinois 60187

DUPAGE COUNTY
NOTICE TO BIDDERS

NOTICE IS HEREBY GIVEN that sealed bids will be received, and time stamped by the Procurement Officer for The County of DuPage ("County") on or before, November 28, 2023 at 2:30 p.m. (CT) at DuPage County, Finance – Procurement 3-400, 421 N. County Farm Road, Wheaton, IL 60187-3978 by qualified Offerors to provide services for the following contract: TRENCHLESS REHABILITATION AND MAINTENANCE OF PIPELINE INFRASTRUCTURE 23-065-PW. The County of DuPage, IL has determined that the competitive proposal method of procurement (RFP) will provide the best value for the County and Participating Public Agencies as the intent of this solicitation is to maintain and extend the useful life of existing structures. The terminology Bid, Proposal, Response, Bidder, Proposer, Firm, Offeror, Contractor, Vendor, and Contractor, Awarded Supplier, Offeror may be interchanged. To receive a bid, including bid specification, at no cost, prospective bidders must complete and provide the Apprenticeship or Training Program Certification for compliance with the County's Responsible Bidder's Ordinance to the Finance Department by email at Nickon.Etminan@dupagecounty.gov or onsite during regular business hours.

The Illinois Prevailing Wage Act, 820 ILCS 130/.01 et seq., is applicable to this Bid or Contract.

VIRTUAL NON-MANDATORY PRE-PROPOSAL CONFERENCE

Offerors are strongly encouraged, but not required to participate in a pre-proposal conference, which will be held on November 2, 2023 at 10:00 a.m. (CT) virtually. To attend the conference, potential Offerors must notify Nickon Etminan at Nickon.Etminan@dupageco.org, by 4:00 p.m. (CT) November 1, 2023. Offeror's who anticipate attending the pre-proposal conference and send notification will receive an email with call in instructions prior to the date and time of the pre-proposal conference. The purpose of this conference is to clarify the contents of this RFP or any apparent omission or discrepancy should be presented to the County at this conference. The County will then determine the appropriate action necessary, if any, and may issue a written addendum to the RFP. Oral statements or instructions will not constitute an addendum to this RFP.

Due to the COVID-19 crisis, there are some process changes to the solicitations for bids and proposals including bid openings:

1) Bid openings are open to the public.
2) Procurement will accept electronic bid submissions (by email) and electronic signatures.
3) Bids do not have to be notarized before submission.

Date	RFP Event Activity
October 19, 2023	Legal Notice Advertisement Placed
November 2, 2023 10:00 a.m.	Pre-Proposal Meeting
November 3, 2023 4:00 p.m.	Questions due to Buyer Email: Nickon.Etminan@dupagecounty.gov
November 9, 2023 4:00 p.m.	Final Q&A Addendum Published
November 28, 2023 2:30 p.m.	Submittals Due to Finance Department

TABLE OF CONTENTS

Contents

SECTION 1 - PROJECT INFORMATION 3
SECTION 2 - INSTRUCTIONS TO BIDDERS 4
SECTION 3 - GENERAL CONDITIONS 7
SECTION 4 - SPECIAL CONDITIONS 10
SECTION 5 - INSURANCE REQUIREMENT 12
SECTION 6 - SCOPE OF SERVICES 14
SECTION 7 – EVALUATION CRITERIA AND SUBMITTAL REQUIREMENTS 15
SECTION 8 - REQUIRED FORMS TO BE SUBMITTED 19
SECTION 9 - SAMPLE CONTRACT 47
SECTION 10 - OUTSIDE ENVELOPE BID LABEL 49

SECTION 1 - PROJECT INFORMATION

√	SUBMITTAL CHECKLIST
	1. Original signed bid with one (1) PDF on Flash Drive 2. Bid Security 3. Bid Form Pricing 4. Required Forms to Be Completed, Signed and Return with BID SECTION 8 • Bid Form Pricing • Bid Form Signature Page • Mandatory Form • References • Required Vendor Ethics Disclosure Statement • IRS Form W-9 • Apprenticeship or Training Program Certification 5. OMNIA Attachments

AWARDED CONTRACTOR REQUIREMENTS	
Certificate of Insurance	Due within 15 days of Notice of Intent to Award
Performance Bond	Due within 15 days of Notice of Intent to Award
Awarded Vendor Questionnaire	Due within 60 days of Notice of Award https://mwv.dupageco.org/
Illinois Secretary of State Corporate/LLC Certificate of good standing for current year	Due within 15 days of Notice of Intent to Award http://www.cyberdriveillinois.com/departments/business_services/howdoi.html

SECTION 2 - INSTRUCTIONS TO BIDDERS

1) **ON-LINE NOTIFICATION OF SPECIFICATIONS:** This document is available over the Internet at www.DemandStar.com, as well as from the contact listed in this document. Adobe Acrobat Reader is required to view electronic documents on-line. If you do not have Adobe Acrobat Reader, you may download it for free from Adobe at www.adobe.com/products/acrobat/readstep.html. Businesses without Internet access may contact the Procurement Services Division of the County at (630) 407- 6190 for these documents. Companies interested in doing business with the County can register and maintain their registration via the Internet at www.DemandStar.com. Registration is not required but if you choose to register you will receive automatic initial notification from DemandStar of relevant opportunities with the County of DuPage. The County is not responsible for errors and omissions occurring in the transmission or downloading of any specifications from this website. In the event of any discrepancy between information on this website and the hard copy specifications, the terms of the hard copy specification will control.

2) **ON-LINE PROVIDER DISCLAIMER:** DemandStar.com has no affiliation with the County of DuPage other than as a service that facilitates communication between the County and its vendors. DemandStar.com is an independent entity and is not an agent or representative of the County. Communications to DemandStar.com do not constitute communications to the County.

3) **COMMUNICATIONS:** To create a more competitive and unbiased procurement process, the County desires to establish a single point of contact throughout the procurement process. From the issue date of this solicitation, until a contract has been awarded, all requests for clarification or additional information regarding this solicitation or contact with the County personnel concerning this solicitation or the evaluation process, must be solely to the contact person listed on the cover page of this solicitation. No contact regarding this document with other County employees or officers is permitted. A violation of this provision may be grounds for the County to reject the Bidder's proposal. If it is later discovered that a violation has occurred, the County may reject any proposal or terminate any contract awarded pursuant to this solicitation. Questions and answers regarding the Scope of Work/Specifications will be shared with all bidders.

4) **BID INFORMATION AND QUESTIONS:** Each Proposal that is timely received will be evaluated on its merit and completeness of all requested information. In preparing Proposals, Bidders are advised to rely only upon the contents of this Bid and accompanying documents and any written clarifications or addenda issued by the County. If a Bidder finds a discrepancy, error, or omission in the Bid package, or requires any written addendum thereto, the Bidder is requested to notify the Purchasing Contact noted on the cover of this document, so that written clarification may be sent to all prospective Bidders. The County is not responsible for oral representations. All questions must be submitted in writing to the Procurement Services Contact only before the Question Deadline indicated on the front of this document. All answers will be issued in the form of a written addendum.

5) **BID SUBMISSION:** To be considered, the Proposal must be prepared in the manner and detail specified in this document. Proposals must be submitted before the date and time indicated as the deadline. It is each Bidder's responsibility to ensure that the submittal is received and time-stamped prior to the deadline. This responsibility rests entirely with the Bidder, regardless of delays resulting from postal handling or for any other reasons. Proposals will be accepted at any time during the normal course of business only, said hours being 8:00 a.m. to 4:00 p.m. local time, Monday through Friday, except for legal holidays to DuPage County Finance – Procurement at 421 North County Farm Road, Room 3-400 Wheaton, IL 60187. Proposals received after the above deadline may not be accepted and may be returned to the Bidder unopened. The Finance-Procurement timestamp shall be the official time. The opening of a Bid does not constitute the County's acceptance of the Bidder as a responsive and responsible Bidder. Bidders must sign, in ink, the Proposal Form if indicated. Unsigned Proposals will not be considered. An authorized official must sign the Proposal. Each signature represents binding commitment upon the Bidder to provide the goods and/or services offered to the County if the Bidder is determined to be a responsive and responsible Bidder providing the best value to the County and Participating Public Agencies.

Bids must be enclosed in a sealed envelope, box, or package, and clearly marked on the outside with the attached label secured to the lower left-hand corner.

Submission of a Bid establishes a conclusive presumption that the Bidder is thoroughly familiar with the BID and specifications and terms of the Form of Contract, and the County's Procurement Ordinance and that the Bidder understands and agrees to propose by each, and all the stipulations and requirements contained therein.

All prices and notations must be typed or printed in ink. No erasures are permitted. Mistakes may be crossed out and the person(s) signing the Bid must initial corrections in ink.

All costs incurred in the preparation and presentations of the Bid, as well as, any resulting contract, are the Bidder's sole responsibility; no such costs will be reimbursed to any Bidder. All documentation submitted with the Bid will become the property of the County.

Bids are subject to public disclosure after the deadline for opening in accordance with state law under the Freedom of Information Act (FOIA).

6) **CONTRACT AWARD:** The County reserves the right to withdraw the Bid, to award to one Bidder, to any combination of multiple Bidders, by item, group of items, or total Bid. The County may waive informalities if it is in the County's interest. The Bidder(s) to whom the award is made will be notified as soon as possible. Tentative acceptance of the Proposal, intent to recommend award of a contract and actual award of the contract will be provided by written notice sent to the Bidder at the address designated in the document. All Proposals must be for a firm fixed price unless specified. If, for any reason, a contract is not executed with the selected Bidder within 14 days after notice of recommended award, then the County may recommend the next most responsive and responsible Bidder(s) that can provide the best value to the County and Participating Public Agencies. Award of this Bid is contingent upon the availability of funds for this project, within the sole discretion of the County. Acceptance of the Bidder's Proposal does not constitute a binding contract. There is no contract until the County's policies have been fulfilled. The County is not liable for performance costs until the successful Bidder has been given a fully executed contract. Failure to accept the terms and conditions of the County's Standard Contract may deem the Bidder non-responsive. The successful Bidder will be asked to sign a contract agreement (sample attached).

7) **WITHDRAWAL:**

a) By the Bidder: Bids may only be withdrawn by written notice prior to the deadline date set for the opening of Bid. No Bid may be withdrawn after the deadline for submission.

b) By the County: The County may withdraw Bids at any time, for any reason, prior to execution of the Contract.

8) **ALTERNATE/EQUAL BIDS:** The specifications cannot cover precisely, all minute details of the equipment required. Therefore, for purposes of establishing a standard of quality, the items listed in the specification may state brand names, manufacturer's models, numbers, et cetera. The County of DuPage, for cost effective measures, standardizes on specific items; those bids will contain the language "No Substitutions," and any alternative will not be considered. A generic or alternate brand product of equal specifications may be proposed as an alternative for the item identified unless "No Substitutions" is indicated. However, in bidding the alternate item, the bidder must also attach manufacturer's printed specifications and literature. Bidders are encouraged to submit cost-saving/value-added alternate bid pricing suggestions, such as rebates, creative lease agreements, extended warranty periods, trade-in allowances, or the availability of discounts for floor model or demonstrator units at significant savings. Any alternate pricing should be noted as a separate line that may be subtracted from the bid pricing as specified, allowing for clear evaluation and value-analysis by the County. The County recognizes the expertise provided by many bidders and encourages creativity in bidding. Alternates may be considered if the bid submitted clearly indicates what will be furnished and how it will benefit the County. Alternates will be compared to the lowest responsive, responsible bid as specified.

9) **DEVIATIONS:** The County of DuPage reserves the right to approve any material the Bidder proposes to furnish which contains deviations from specification requirements, but which may substantially comply. If there is any deviation in the pack, source, quality, etc., of any item id, from that prescribed in the specifications, Bidder must rule out the appropriate line in the specifications and clearly indicate the correction. Prices will be converted by the County to accommodate accepted deviations.

10) **REJECTION:** The County reserves the right to reject any or all Proposals, or to accept or reject any Proposal in part, and to waive any minor informality or irregularity in Proposals received, if it is determined by the Procurement Officer or designee that the best interest of the County will be served by doing so. The County may reject any Proposal from any person, firm or corporation in arrears or in default to the County on any contract, debt, or other obligation, or if the Bidder is debarred by the County from consideration for a contract award, or if Bidder has committed a violation of the ethics or anti-kickback provisions of the County's Procurement Ordinance which resulted in a termination of a contract or other material sanction within the two (2) years immediately preceding the date of issuance of this document.

11) **PROCUREMENT POLICY**: Procurement for the County will be handled in a manner providing fair opportunity to all businesses. This will be accomplished without abrogation or sacrifice of quality and as determined to be in the best interest of the County. The Procurement Officer has the vested authority to execute all County contracts, subject to Committee and County Board approval where required.

12) **PROPRIETARY INFORMATION:** Under the Illinois Freedom of Information Act, all records in the possession of DuPage County are presumed to be open to inspection or copying, unless a specific exception applies. 5 ILCS 140/1.2 One exemption is "trade secrets and commercial or financial information obtained from a person or business where the trade secrets or commercial or financial information are furnished under a claim that they are proprietary, privileged or confidential, and that disclosure of the trade secrets or commercial or financial information would cause competitive harm to the person

or business, and only insofar as the claim directly applies to the records requested." 5 ILCS 140/7(1)(g). The county will assume that all information provided to us in a bid or proposal is open to inspection or copying by the public unless clearly marked with the appropriate exception that applies under the Freedom of Information Act. Additionally, if providing documents that you believe fall under an exception to the Freedom of Information Act, please submit both an unredacted copy along with a redacted copy which has all portions redacted that you deem to fall under a Freedom of Information Act exception

13) **NON-DISCRIMINATION:** DuPage County will not contract with any person or firm that discriminates against employees or applicants for employment because of any factor not related to job performance. The Bidder must comply with all federal, state and local laws and policies that prohibit discrimination in employment contracts.

14) **CONTRACT NEGOTIATION:** All Proposals must be firm for at least 120 calendar days from the due date of the Bid. If, for any reason, a contract is not executed with the selected Bidder within 14 days after notice of recommended award, then the County may recommend the next most responsive and responsible Bidder that can provide the best value to the County and Participating Public Agencies. There is no contract until the County's policies have been fulfilled. Exclusive or concurrent negotiations may be conducted with responsible Bidders for the purpose of altering or otherwise changing the conditions, terms and price of the proposed contract unless prohibited. Bidders shall be accorded fair and equal treatment in conducting negotiations and there shall be no disclosure of any information derived from proposals submitted by competing Bidders.

15) **DISQUALIFICATION OF RESPONDENTS:** Any one or more of the following causes may be considered sufficient for the disqualification of a Bidder and the rejection of the Bid: Evidence of collusion among Bidders. Lack of competency as revealed by either financial, experience, or equipment statements. Lack of responsibility as shown by past work. Uncompleted work under other contracts which, in the judgment of the County, might hinder or prevent the prompt completion of additional work if awarded.

16) **BIDDER RESPONSIBILITIES**: The Bidder must be capable, either as a firm or a team, of providing all services as described under Specifications and/or Scope of Work Section and to maintain those capabilities until notification of the fact that their Bid was unsuccessful. The selected Bidder(s) must remain capable of providing all services proposed as described under Specifications and/or Scope of Work Section and must maintain those capabilities until the agreement is successfully finished. The successful Bidder(s) will be responsible for all Services in this Bid as they are provided or performed by the Successful Bidder(s). Further, the County will consider the Successful Bidder(s) to be the sole point of contact regarding contractual matters, including payment of any and all charges resulting from the cost of any contract.

17) **DISCLOSURE OF CONTENTS:** All information provided in the Bid shall be held in confidence and shall not be revealed or discussed with competitors, until after award of the contract except as provided by law or court decision. All material submitted with the Bid becomes the property of the County and may be returned only at the County's option. Bidders must make no other distribution of their Bids other than authorized by this BID. A Bidder who shares cost information contained in its Bid with other County personnel or competing Bidder personnel shall be subject to disqualification. Bidders shall not be provided any information about other Bids or prices or where the Bidder stands in relation to others at any time during the evaluation process. Any request for such information by a Bidder, or an affiliated party may be viewed as a compromise to the evaluation process and the requesting Bidder may be eliminated from further consideration.

18) **COMPLIANCE WITH ILLINOIS STATE LAW**: By submitting a response, Bidder or Proposer certifies that it has obtained all required authorizations, certifications, and/or licenses required by law to perform the work described herein and transact business within the State of Illinois. This may include but is not limited to, in the case of a foreign business corporation, limited liability company, limited partnership, or limited liability partnership, authorization from the Illinois Secretary of State to transact business within the State of Illinois.

http://www.cyberdriveillinois.com/departments/business_services/howdoi.html.

SECTION 3 - GENERAL CONDITIONS

1) **ADDENDUM AND SUPPLEMENT TO REQUEST FOR PROPOSAL (RFP):** If it becomes necessary or advisable to revise any part of this RFP or if additional data is necessary to enable the exact interpretation of provisions of this RFP, revisions will be provided in the form of an Addendum. Addendum information is available over the internet at www.DemandStar.com. Adobe Acrobat® Reader may be required to view this document. Bidder shall acknowledge receipt of each addendum issued in the space provided on the bid form.

2) **APPLICABLE CODES AND ORDINANCES:** Contractor hereby certifies that all materials used conform to all articles and sections of all current applicable National Building Codes and other relevant construction-related codes. Workmanship and materials shall conform to all local applicable codes and ordinances.

3) **ASSUMPTION OF RISK:** Until the completion and final acceptance by the County of all work under or implied by this Contract, the work shall be under the Contractor's care and charge and he shall be responsible, therefore. Contract shall rebuild, replace, repair, restore and make good all injuries, damages, re-erection, and repairs rendered necessary by causes, of any nature, to all or any portion of the work.

4) **CHANGES:** The County of DuPage reserves the right to make any desired change in the specifications after the same shall have been put under contract; but the change so made, with the price to be added or deducted from the contract price, therefore, shall be agreed upon in advance between County of DuPage and the successful Contractor. Illinois law requires that changes more than $10,000 or extensions greater than thirty (30) days must comply with the Criminal Code. The Procurement Services Division shall issue to the successful contractor a written change order to the original contract; such change orders shall be binding upon both parties thereto and shall in no way invalidate or make void the terms of the original contract not modified by such change.

5) **COMMENCEMENT OF WORK**: The successful Contractor must not commence any billable work prior to the County issuing a Notice to Proceed. Work done prior to these circumstances shall be at the Contractor's risk.

6) **CONFIDENTIAL INFORMATION AND COUNTY PROPERTY:** It is agreed that all specifications, drawings, or data furnished by County of DuPage shall (1) remain the County of DuPage's sole and exclusive property; (2) be considered and treated by Contractor as County of DuPage's confidential information, and not be copied, reproduced or duplicated in any manner or disclosed to any person or party, except as is necessary in the performance of this contract and (3) be returned upon request.

7) **CONTRACTOR PERFORMANCE:** The Instructions to Bidders, Bid Form, General Conditions, Special Conditions, Contract Specifications and Attached Exhibits, together with the approved purchase order shall be incorporated in and become terms of the Contract. All items shall be supplied in strict accordance with the specifications.
The Contractor's performance under the terms of the Contract shall be to the satisfaction of the County. Failure to comply with any statutory requirements shall be deemed a performance breach.

8) **DISCIPLINE:** Nothing herein shall be construed to imply that the County of DuPage is retaining control over the operative details of the Contractor's work or the Subcontractor's employee's work. The Contractor is assuming all oversight, and the Contractor is ensuring compliance with safety guidelines.

9) **DRUG FREE WORKPLACE:** The Contractor (whether an individual or company) agrees to provide a drug free workplace as provided for in 30 ILCS 580/1 et seq.

10) **ENDORSEMENTS:** Contractor shall not us the name, seal or images of County of DuPage in any form of endorsement to any third-party without the County's written permission.

11) **F.O.B.:** All goods are to be shipped prepaid, F.O.B. delivered and installed unless otherwise permitted. The total price quoted by the Bidder must be the total cost delivered to the location(s) stated. Bidder must not qualify the bid by stating a F.O.B. location other than such stated location(s) for the County. Shipments sent C.O.D. without County of DuPage's written consent will not be accepted and will at Contractor's risk and expense, be returned to Contractor. Unauthorized shipments are subject to rejection and return at Contractor's expense.

12) **FORCE MAJEURE:** The County of DuPage shall not hold Contractor liable for an extraordinary interruption of events, or damage of County property, by a natural cause that cannot be reasonably foreseen or prevented; i.e., droughts, floods, severe weather phenomena, et cetera.

13) **HOLD HARMLESS AGREEMENT:** Contractor shall indemnify and hold harmless Owner, Engineer, Engineer's Consultants, and all of their partners, officers, agents, and employees from all suits, actions, or claims of any character brought for or on account of any injuries to or death of or damages received by any person, persons, or property resulting from the operations of Contractor or any of his subcontractors in prosecuting the work under this contract.

14) **HOLDING OF BIDS:** Bidder may withdraw the bid at any time prior to the time specified as the closing time for the receipt of bids. However, no Bidder shall withdraw or cancel the bid for a period of ninety (90) calendar days after said closing time for the receipt of bids.

15) **INDEMNITY:** The Contractor shall, at all times, to the extent permitted by law, fully indemnify, hold harmless, and defend the County and its officers, agents, and employees from and against any and all claims and demands, actions, causes of action, and cost and fees of any character whatsoever made by anyone whomsoever on account of or in any way growing out of the performance of this contract by the Contractor and its employees, or because of any act or omission, neglect or misconduct of the Contractor, its employees and agents or its subcontractors including, but not limited to, any claims that may be made by the employees themselves for injuries to their person or property or otherwise, and any claims that may be made by the employees themselves or by the Illinois Department of Labor for the Contractor's violation of the Illinois Prevailing Wage act (820 ILCS 130/1 et seq.). Such indemnity shall not be limited because of the enumeration of any insurance coverage or bond herein provided. Nothing contained herein shall be construed as prohibiting the County, its officers, agents, or its employees, from defending through the selection and use of their own agents, attorneys and experts, any claims, actions or suits brought against them. The Contractor shall likewise be liable for the cost, fees and expenses incurred in the County's or the Contractor's defense of any such claims, actions, or suits. The Contractor shall be responsible for any damages incurred because of its errors, omissions or negligent acts and for any losses or costs to repair or remedy construction because of its errors, omissions or negligent acts. The County does not waive its defenses or immunities under the Local Government and Governmental Employees Tort Immunity Act, 745 ILCS 10/1 et seq. because of indemnification or insurance.

16) **LAW GOVERNING:** The RFP and resulting contract shall be governed by the laws of Illinois. Bidder agrees to comply with all applicable State and Federal laws.

17) **VENUE:** By submitting a response, bidder agrees that venue for all disputes arising out of the solicitation process, including but not limited to judicial review of any protest decision, will be exclusively in the circuit court for the Eighteenth Judicial Circuit in DuPage County, Illinois and that Illinois law will control.

18) **LIABILITY OF CONTRACTOR:** The mention of any specific duty or liability imposed upon Contractor shall not be construed as a limitation or restriction of any general or other liability or duty imposed upon Contractor by his Contract, said reference to any specific duty or liability being made merely for explanation. Contractor shall be responsible to Owner for the acts and omissions of all his employees and all subcontractors, their agents and employees, and all other persons performing any of the Work under an agreement with Contractor.

19) **LIENS, CLAIMS, AND ENCUMBRANCES**: Contractor warrants and represents that all the goods and materials ordered herein are free and clear of all liens, claims, or encumbrances of any kind.

20) **LOBBYIST REGISTRATION:** Bidder shall comply with the provisions of Chapter 2, Article IX, Section 2-600, Lobbyist Registration of the Code of DuPage County, Illinois

21) **MSDS**: When applicable, Contractor shall furnish Material Safety Data Sheets for their products, in compliance with the Illinois Toxic Substance Disclosure to Employee Act and the "Right-to-Know" law, 820 ILCS 220/0.01 and 820 ILCS 225/0.1. Material Safety Data Sheets, upon award of Contract, shall be submitted to the County Procurement Services Division.

22) **MISCELLANEOUS REQUIREMENTS**: The County will not be responsible for any expenses incurred by the Contractor in preparing and submitting a Bid. All Bids shall provide a straightforward, concise delineation of your capabilities to satisfy the requirements of this request. Emphasis should be on completeness and clarity of content.

23) **NON-DISCRIMINATING:** The Contractor, its employees and subcontractors, agree not to commit unlawful discrimination and agree to comply with applicable provisions of the Illinois Human Rights Act, the U.S. Civil Rights Act and Section 504 of the Federal Rehabilitation Act, and rules applicable to each.

24) **PATENTS:** Contractor undertakes and agrees to defend at Contractor's own expense all suits, actions, or proceedings in which the County of DuPage, its Officers, agents or employees are made defendants for actual or alleged infringement of any U.S. or foreign letters patent resulting from the use or sale of the items purchased hereunder. Contractor shall inform the County of DuPage whenever infringement will result from Contractor's adherence to specifications supplied by the County of DuPage or by an authorized County representative. Contractor further agrees to pay and discharge all judgments

or decrees, which may be rendered in any such suit, action or proceedings against the County of DuPage, its Officers, agents or employees therein. Should Contractor of his agents be enjoined from furnishing or using any invention, article, material, or appliance required to be supplied under this contract, Contractor shall promptly offer other articles, materials, or appliances in lieu thereof, of equal quality suitability for review by County. If the County should disapprove of the offered substitutes and should elect in lieu of substitution, to have supplied, and to retain and use, any such invention, article, material or appliance as may be required by this Contract to be supplied, then Contractor shall pay such royalties and secure such valid licenses as may be necessary for the County. If the contractor does not make any approved substitution promptly, or does not pay such royalties to secure the licenses as may be necessary, then the Engineer shall have the right to make such substitution, or change the cost thereof against any money due Contractor from Owner, or recover the amount thereof from him and his sureties notwithstanding that final payment under this Contract may have been made.

25) **PAYMENT:** Original invoices must be presented for payment in accordance with instructions contained on the Purchase Order including reference to Purchase Order number and submitted to the correct address for processing. The County shall pay all invoices pursuant to 50 ILCS 505, “Local Government Prompt Payment Act”. Invoices containing charges for work subject to the Illinois Prevailing Wage Act (820 ILCS 130/) are required to be accompanied by the applicable Certified Transcript of Payroll form(s) for acceptance. Payment will not be made on invoices submitted later than six-months (180 days) after delivery of goods and any statute of limitations to the contrary is hereby waived.

26) **PROTEST:** Any actual or prospective bidder, offeror, or contractor who believes they have been adversely affected in connection with the solicitation or award of a contract may, within seven calendar days of the solicitation, bid opening or award, by mail or have served, a letter of protest to the Chief Procurement Officer. The Chief Procurement Officer must submit a response in writing to the protesting entity, within five (5) business days from receipt of the protest.

27) **RESERVATION OF RIGHTS:** The County of DuPage reserves the right to reject any or all bids failing to meet the County’s specifications or requirements and to waive technicalities.

1) The Bidder’s failure to meet the mandatory requirements of the RFP will result in the disqualification of the bid from further consideration.

2) The County further reserves the right to reject all bids and obtain goods or services through intergovernmental or cooperative agreements, or to issue a new and revised RFP.

3) Submission of a bid confers no rights on the Contractor to a selection or to a subsequent contract. All decisions on compliance, evaluation, terms and conditions shall be made solely at the County’s discretion and shall be made in the best interest of the County.

28) **TAX:** The County of DuPage does not pay Federal Excise Tax or Illinois Sales Tax. The tax exemption number is E9997-4551-07. A copy of the exemption letter is available upon written request.

29) **TRANSFER OF OWNERSHIP OR ASSIGNMENT:** The terms and conditions of this contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns. Prior to any sales or assignments, the County of DuPage must be notified and approve the same in writing.

SECTION 4 - SPECIAL CONDITIONS

1) **ACCURACY DISCLAIMER:** The Contractor shall thoroughly acquaint himself with the sites for the proposed bid to fully understand the facilities, difficulties and restrictions attending to the execution of the bid. The Contractor will be allowed no additional compensation for his failure to be so informed.

2) **ADDITIONAL MISCELLANEOUS REQUIREMENTS:** The Contractor is prohibited from assigning, transferring, conveying, subletting, or otherwise disposing of this agreement or its rights, title of interest therein or its power to execute such agreement to any other person, company or corporation without the previous consent and approval in writing by the County. The County staff will not take delivery of any equipment or material. The Contractor shall have a representative on-site to receive any equipment or material delivered for this project.

3) **BID SECURITY/PERFORMANCE BOND:**

Each bid shall be accompanied by a Bid Security in the form of (a) Bid Bond or (b) a certified or cashier's check or money order payable to the order of the DuPage County Treasurer. The Bid Security shall be in an amount of not less than one-thousand dollars ($1,000.00), as a guarantee that the Bidder will, within 10 days after the date of the conditional award of a contract, provide a Performance Bond as required by the Bid Documents. Any bid submitted without the required Bid Security, will not be read after it is opened.

Bid Bonds shall be duly executed by the Bidder as principal and have a surety thereon a surety company, approved by the County, having the minimum equivalent of a Best and Company A-V Rating.

If an intended Awardee fails to furnish any bond or insurance or document required by the Bid Documents, the Bid Security submitted with its bid shall be forfeited as liquidated damages.

The Contractor shall within 15 days of the Notice of Award furnish a Performance Bond in an amount equal to one hundred percent (100%) of total bid amount, conditioned upon the faithful performance of all covenants and stipulations included in these bid documents and holding good until the completion of the contract to protect the County of DuPage against inadequate performance per all requirements of the Bid Documents. The Performance Bond shall remain in effect for one year from the issuance of a Purchase Order or until completion of the Contract period, whichever is longer.

The Contractor shall provide an extension of or an additional Performance Bond, upon each mutually agreed upon contract renewal.

4) **CONTRACT TERM AND RENEWAL:** This contract shall be effective for a three (3) year term period with a start date of December 1, 2023 and a completion date of November 30, 2026.

The contract shall be subject to two (2) one-year renewal period provided there is no change in the terms, conditions, specifications, and prices and provided that such renewals are mutually agreed to by both parties. In no event shall the term plus renewals exceed four (5) years.

The anticipated full term of the contract is five (5) years. The Contractor(s) shall have the right to enter local "service" agreements with Participating Public Agencies accessing the contract through OMNIA Partners, so long as the effective date of such agreement is prior to the expiration of the Master Agreement. All local agreements may have a full potential term (any combination of initial and renewal periods) not to exceed five (5) years.

5) **SPLIT BIDS:** Contractors may bid on one or more categories, if applicable to the bid. The County of DuPage reserves the right to award by total bid, by single item or by any combination of items, in accordance with our language in the Bid Document relating to Contractor selection (or rejection) in the best interest of the County of DuPage.

6) **CANCELLATION:** The County reserves the right to cancel the whole or any part of this contract (1) upon 120-day written notice, without cause, or (2) upon 30-day written notice for due to failure by the Contractor to carry out any obligation, term or condition of this contract. Any local agreements or work with Participating Public Agencies, to include the County, may survive at the discretion of the Participating Public Agency. The County will issue written notice to the Contractor for acting or failing to act as in any of the following:

a. The Contractor provides material that does not meet the specifications of this contract;
b. The Contractor fails to adequately perform the services set forth of this contract;
c. The Contractor fails to complete the work required or to furnish the materials required within the time stipulated in the contract;

The Contractor fails to progress in the performance of this contract and/or gives the County reason to believe that the

Contractor will not or cannot perform the requirements of the contract. Upon receipt of the written notice of concern, the Contractor shall have ten (10) days to provide a satisfactory, written response to the County. Failure on the part of the Contractor to adequately address all issues of concern may result in the County resorting to any single or combination of the following remedies: Cancel the contract; Reserve all rights or claims of damage for breach or any covenants of the contract; Perform any test or analysis on materials for compliance with the specifications of this contract. If the results of any test or analysis find a material non-compliant with the specifications, the actual expense of testing shall be borne on the Contractor.

7) **LITERATURE:** Contractor must supply with their bid the latest printed specifications and advertising literature if pertains to proposal submitted.

8) **PROPERTY FURNISHED TO CONTRACTOR BY COUNTY OF DUPAGE:** All property furnished to the Contractor by the County of DuPage or specifically paid for by the County of DuPage, for use in the performance of this contract, shall be and remain the property of the County of DuPage, shall be subject to removal upon the County of DuPage's instruction, shall be used only in filling orders from the County of DuPage, shall be held at the Contractor's risk, shall be kept insured by the Contractor at the Contractor's expense while in its custody or control in an amount equal to the replacement cost thereof, with loss payable to the County of DuPage, and upon recall by County of DuPage shall be packaged at Contractor's expense for shipment to County of DuPage in accordance with County of DuPage's instructions. Copies of policies or certificates of such insurance will be furnished to County of DuPage on demand. It is agreed that all specifications, drawings, or data furnished by County of DuPage shall (1) remain the County of DuPage's sole and exclusive property; (2) be considered and treated by Contractor as County of DuPage's confidential information, and not be copied, reproduced or duplicated in any manner or disclosed to any person or party, except as is necessary in the performance of this order/contract and (3) be returned upon request.

9) **QUANTITIES:** The County of DuPage reserves the right to increase or decrease the quantities shown herein at any time during the life of the contract to correspond to the actual needs of the County of DuPage.

10) **RELATED PURCHASES**: In the event items are purchased within the same category, i.e., a different Gates belt or hose than specifically itemized in the parts specification, the discount indicated on your bid for the group of items shall apply.

11) **THIRD PARTY AGREEMENT:** The County shall not enter a third-party rental agreement and reserves the right to disqualify a vendor so bidding.

12) **VENDOR QUESTIONNAIRE:** In accordance with 35 ILCS 200/18-50.2, DuPage County is required to collect and electronically publish data from all vendors and subcontractors as to (1) whether they are a minority-owned, women-owned or veteran-owned business as defined by the Business Enterprise for Minorities, Women and Persons with Disabilities Act (30 ILCS 575/.01 et seq.) and (2) whether the vendor or any subcontractors hold any certifications for those categories or if the vendor or subcontractors are self -certifying; if self -certifying, the vendor and subcontractors shall disclose if they qualify as a small business under federal Small Business Administration standards. Following award of a contract by DuPage County, the awarded vendor must complete the following information for itself, and each subcontractor must separately complete the following information to perform work under this contract within 60 calendar days of the date of award.

SECTION 5 - INSURANCE REQUIREMENT

The Contractor and Subcontractors or Partners will purchase and maintain insurance for the coverages for a minimum of three (3) years after completion of the Contract.

Upon notice of acceptance of Bid, the successful bidder shall, within fifteen (15) calendar days of said notice, furnish to the Purchasing Agent a certificate of Insurance and provide policy endorsements evidencing specific coverage of the types of insurance in the amounts specified below. Such coverage shall be placed with a responsible company acceptable to DuPage County licensed to do business in the State of Illinois, and with a minimum insurance rating of A: VII as found in the current edition of A M Best's Key Rating Guide. Each policy shall bear an endorsement precluding the cancellation or reduction of said policies without providing DuPage County thirty (30) days prior notice thereof in writing. All required insurance shall be maintained by the contractor in full force and effect during the life of the contract, and until all work has been approved and accepted by DuPage County. The Proposer is responsible for all insurance deductibles and Self-Insured Retentions.

TYPE OF INSURANCE	MINIMUM LIMITS LIABILITY
1. Workers Compensation	Statutory
2. Employers Liability A. Each Accident & Disease	$1,000,000
3. *Commercial General Liability	$2,000,000
4. *Umbrella Excess Liability (over primary) Retention for Self-Insured Hazards (each occurrence)	$4,000,000
5. *Business Auto Liability	$1,000,000
* ALSO Required in addition to a Certificate of Insurance 1) An Additional Insured Endorsement as well as endorsements for: 2) Waiver of Subrogation and 3) Insurance is Primary and Non-Contributory to additional insured insurance coverage	

If any policy or coverage is written as "claims made" then coverage must be maintained for 4 years after project completion.

At all times during the term of the contract, the Proposer and its independent contractors shall maintain, at their sole expense, insurance coverage for the Proposer, its employees, officers and independent contractors, as follows:

- It is the responsibility of Proposer to provide a copy of this BID to their insurance.
- It may also be required that the Proposer's insurer and coverage be approved by the DuPage County prior to execution of the Contract.
- No work shall be started until receipt of Certificate of Insurance.

The County of DuPage shall be named as additionally insured on all certificates of insurance. Insurance certificates shall also reference project name and BID NUMBER. Insurance Certificates with required endorsements should be emailed to: Nickon.Etminan@dupagecounty.gov.

The insurance carrier of the insured is required to notify DuPage County of termination of any of these coverage's, prior to the completion of any contract, at least 30 days prior to expiration.

CHANGES IN, OR TERMINATION OF, INSURANCE COVERAGE: The insurance carrier of the insured is required to notify DuPage County of termination of any of these coverage's, prior to the completion of any contract, at least 30 days prior to expiration.

INSURANCE RATING: All the above-specified types of insurance shall be obtained from companies that have at least an A rating in Best's Guide or the equivalent.

SURVIVAL OF INDEMNIFICATION: The indemnification described above shall not be limited due to the enumeration of any insurance coverage herein provided, and indemnification shall survive the termination of the Contract.

NOTICE OF LAWSUIT: Within 60 days of service of process, DuPage County shall notify the Proposer of any lawsuit involving the indemnification provided for above. Failure to provide such notice shall not relieve the Proposer of its obligation to provide indemnification. However, DuPage County shall be responsible for any additional costs of defense incurred due to their failure to provide such notice within 60 days.

CHOICE OF LEGAL COUNSEL: The Proposer shall provide coverage as provided in the contract and retains the right to choose legal counsel subject to the approval of DuPage County, and appointment by the State's Attorney.

RIGHTS RETAINED: Notwithstanding the foregoing, nothing contained herein shall be deemed to constitute a waiver of any defenses or immunities otherwise available to DuPage County.

SECTION 6 - SCOPE OF SERVICES

Vendors and Contractors will be responsible for furnishing all parts, labor and material needed to perform work described in this document. Scheduling of all work will be coordinated with DuPage Public Works. Certified transcripts of payroll shall be submitted to the IDOL Prevailing Wage Portal at the following link: https://www2.illinois.gov/idol/Laws-Rules/CONMED/Pages/Prevailing-Wage-Portal.aspx .

STATEMENT OF WORK/SPECIFICATIONS AND SUPPORTING DOCUMENTS PROVIDED BELOW.

NATIONAL CONTRACT

DuPage County, IL, as the Principal Procurement Agency, defined in Attachment A, has partnered with OMNIA Partners, Public Sector ("OMNIA Partners") to make the resultant contract (also known as the "Master Agreement" in materials distributed by OMNIA Partners) from this solicitation available to other public agencies nationally, including state and local governmental entities, public and private primary, secondary and higher education entities, non-profit entities, and agencies for the public benefit ("Public Agencies"), through OMNIA Partners' cooperative purchasing program. DuPage County, IL is acting as the contracting agency for any other Public Agency that elects to utilize the resulting Master Agreement. Use of the Master Agreement by any Public Agency is preceded by their registration with OMNIA Partners (a "Participating Public Agency") and by using the Master Agreement, any such Participating Public Agency agrees that it is registered with OMNIA Partners, whether pursuant to the terms of a Master Intergovernmental Cooperative Purchasing Agreement, a form of which is attached hereto on Attachment A, or as otherwise agreed to. Attachment A contains additional information about OMNIA Partners and the cooperative purchasing program.

OMNIA Partners is the largest and most experienced purchasing organization for public and private sector procurement. Through the economies of scale created by OMNIA Partners public sector subsidiaries and affiliates, National IPA and U.S. Communities, our participants now have access to more competitively solicited and publicly awarded cooperative agreements. The lead agency contracting process continues to be the foundation on which we are founded. OMNIA Partners is proud to offer more value and resources to state and local government, higher education, K-12 education and non-profits.

OMNIA Partners provides shared services and supply chain optimization to government, education and the private sector. With corporate, pricing and sales commitments from the Contractor, OMNIA Partners provides marketing and administrative support for the Contractor that directly promotes the Contractor's products and services to Participating Public Agencies through multiple channels, each designed to promote specific products and services to Public Agencies on a national basis. Participating Public Agencies benefit from pricing based on aggregate spend and the convenience of a contract that has already been advertised and publicly competed. The Contractor benefits from a contract that generally allows Participating Public Agencies to directly purchase goods and services without the Contractor's need to respond to additional competitive solicitations. As such, the Contractor must be able to accommodate a nationwide demand for services and to fulfill obligations as a nationwide Contractor and respond to the OMNIA Partners documents (Attachment A).

The County of DuPage, IL anticipates spending approximately $3M over the full potential Master Agreement term for Trenchless Rehabilitation and Maintenance of Pipeline Infrastructure. While no minimum volume is guaranteed to the Contractor, the estimated annual volume of Trenchless Rehabilitation and Maintenance of Pipeline Infrastructure purchased under the Master Agreement through OMNIA Partners is approximately $50M. This projection is based on the current annual volumes among the County of DuPage, IL, other Participating Public Agencies anticipated to utilize the resulting Master Agreement to be made available to them through OMNIA Partners, and volume growth into other Public Agencies through a coordinated marketing approach between the Contractor and OMNIA Partners.

Underground Asset Renewal Technical Specifications

Table of Contents

Section A	Cured-In-Place (CIPP) Gravity Applications	p. 2
Section B	Pipebursting	p. 10
Section C	Cleaning, Root Removal, Remote Obstruction Removal	p. 21
Section D	Video Inspection and SSES Oriented Tasks	p. 24
Section E	By-Pass Pumping (Gravity Pipelines)	p. 32
Section F	Point Repair	p. 33
Section G	Sanitary Sewer Manhole Replacement	p. 35
Section H	HDPE Tight Fit Lining System	p. 40
Section I	Internal Rehab of Pressure Pipe Using Fiber Reinforced Polymers	p. 46
Section J	Cured-In-Place Pipe Reconstruction of Potable Water Pressure Pipes and Non-Potable Pressure Pipes	p. 55
Section K	Pressure Pipe Bypass	p. 71
Section L	Pressure Pipe Inspection	p. 72
Section M	Gravity Sewer Lateral Renewal Systems	p. 72
Section N	Manhole, Access Portal and Wet Well Renewal Systems	p. 75
Section O	External Sewer Service Connection to CIPP Using a Saddle Tee	p. 105
Section P	Fusible Polyvinylchloride Pipe for Installation by Horizontal Directional Drilling	p. 107
Section Q	Geopolymer Pipe & Culvert Lining	p. 126

Task and materials made a part of this contract not assigned herein shall be governed by the construction specification standards manual for the Water & Sewer Construction in Illinois, along with IDOT standards manual for the Specifications for Road & Bridge Construction, and along with AWWA Standards.

Section A

CURED-IN-PLACE PIPE (CIPP) FOR GRAVITY APPLICATIONS

INTENT

It is the intent of this specification to provide for the reconstruction of pipelines and conduits by the installation of a resin-impregnated flexible tube, which is inverted into the original conduit by use of a hydrostatic head. The resin is cured by circulating hot water within the tube or by the use of steam. When cured, the "cured-in-place pipe" (CIPP) will be continuous and tight fitting.

REFERENCED DOCUMENTS

This specification references ASTM F1216 (Rehabilitation of pipelines by inversion and curing a resin impregnated tube), ASTM F1743 (Rehabilitation of pipelines by pulled-in-place installation of a cured-in-place thermosetting resin pipe), ASTM D5813 (Cured-in-Place, Thermosetting Resin Sewer Pipe), and ASTM D790 (Test methods for flexural properties of unreinforced plastics) which are made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and those standards, this specification will govern.

PRODUCT, MANUFACTURER/INSTALLER QUALIFICATIONS

Since sewer products are intended to have a 50 year design life, and in order to minimize the Cooperative Member's risk, only proven products with substantial successful long term track records will be allowed. All trenchless rehabilitation products and installers must complete the Evaluative Bid Proposal questionnaire and provide satisfactory documentation with the bid to support each evaluation item.

At a minimum, Products and Installers must meet all of the following criteria to be deemed Commercially Acceptable:

> For a Product to be considered Commercially Proven, a minimum of 1,000,000 linear feet of successful wastewater collection system installations in the U.S. must be documented to assure commercial viability. In addition, at least 100,000 linear feet of the product shall have been in successful service within the State for a minimum of five years.
>
> For an Installing Company to be considered as Commercially Proven, the Installer must satisfy all insurance, financial, and bonding requirements of the cooperative member. The Company must have had at least 5 (five) years active experience in the commercial installation of the exact CIPP Product for which documentation is being supplied.

Sewer rehabilitation products must provide Third Party Test Results supporting the long-term performance and structural strength of the product and such data shall be satisfactory to the DuPage County Local Government Purchasing Cooperative. Test samples shall be prepared so as to simulate installation methods and trauma of the product. No product will be allowed without independent third party testing verification.

Both the rehabilitation manufacturing and installation processes shall operate under a documented quality management system. Documentation or proof of certification by a third party registrar shall be required and submitted with qualification statement as part of the bid.

MATERIALS

1. Tube - The sewn tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216 or ASTM F1743 Section 5. The tube shall be constructed to withstand inversion pressures, have sufficient strength to bridge missing pipe, stretch to fit irregular pipe sections, and shall invert smoothly around bends.

   A. The wetout tubes shall have a uniform thickness that when compressed at installation pressures will meet or exceed the Design thickness.

   B. The tube shall be sewn to be a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowance should be made for circumferential stretching during inversion.

   C. The outside layer of the tube (before wetout) shall be coated with an impermeable, flexible membrane that will contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wetout) procedure.

   D. The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.

   E. The wall color of the interior pipe surface of the CIPP after installation shall be a light reflective color so that a clear detail examination with closed circuit television inspection equipment may be made.

   F. Seams in the tube shall be stronger than the unseamed felt. Where the length requires joining, the sewn joint shall not be perpendicular to the long axis but spirally formed and sewn.

G. The outside of the tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturer's name or identifying symbol.

2. Resin - The resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured within the tube composite meets the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the Design of the CIPP.

STRUCTURAL REQUIREMENTS

1. The CIPP shall be designed as per ASTM F1216, Appendix X1. The CIPP design shall assume no bonding to the original pipe wall. The Long-Term Flexural Modulus to be used in Design shall be verified by independent testing (such as the Trenchless Technology Center at Louisiana Tech University). Such Long-Term Modulus shall not exceed 50% of the short-term values given in Section below. CIPP thickness shall not be less than that which is computed from the DR's given in Table #1, for resin systems with the physical properties shown.

2. The Enhancement Factor 'K' to be used in 'Partially Deteriorated' Design conditions shall be assigned a value of 7. Application of Enhancement (K) Factors in excess of 7 shall be substantiated through independent test data.

3. The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. If separation of the layers occur during testing of field samples, new samples will be cut from the work. Any reoccurrence may cause rejection of the work.

4. The cured pipe material (CIPP) shall conform to the structural standards, as listed below.

	Test Method	Result Minimum Physicals Resin per ASTM F1216	Resin With 400,000 psi Properties
Modulus of Elasticity	ASTM D-790	250,000	400,000 psi
Flexural Stress	ASTM D-790	4,500	4,500 psi

TABLE #1
CIPP THICKNESS DESIGN
BASED ON ASTM F1216 APPENDIX

				CIPP Dimensional Ratio (DR) DR=Diameter/Thickness	
Pipe Size	Existing Pipe Condition	Ovality	Pipe Depth (Groundwater ½ depth)	Min. Flex Modulus E=250,000psi per ASTM F1216	Resin with Flex. Mod. E=400,000psi
6″ — 48″	PD*	0 - 2%	4′ - 8′	78.4	91.6
"	PD	2 - 5%	4′ - 8′	71.6	83.9
"	PD	5 - 10%	4′ - 8′	62.2	72.5
6″ — 48″	PD	0 - 2%	9′ - 16′	62.5	72.9
"	PD	2 - 5%	9′ - 16′	57.3	66.7
"	PD	5 - 10%	9′ - 16′	49.5	57.7
6″ — 48″	FD**	0 - 2%	4′ - 8′	58.8	68.8
"	FD	2 - 5%	4′ - 8′	49.3	57.6
"	FD	5 - 10%	4′ - 8′	36.7	42.9
6″ — 48″	FD	0 - 2%	9′ - 16′	42.7	49.9
"	FD	2 - 5%	9′ - 16′	35.7	41.8
"	FD	5 - 10%	9′ - 16′	26.6	31.1

* PD - Partially Deteriorated, capable of sustaining load in future, however the CIPP must resist groundwater (infiltration), provide corrosion protection, seal root intrusions and provide flow improvement, as examples.
** FD - Fully Deteriorated, no strength to be assigned to the existing pipe; supply a fully structural pipe.
For FD condition the following parameters were used:
Soil modulus - 700psi
Soil density - 120lb/cu.ft
Live load - HWY H20, 16,000lbs.

For CIPP wall thickness - divide <u>diameter</u> by <u>DR</u>.
<u>Example:</u>
12″, FD Pipe, 2% ovality, 8′ deep, E=400,000 psi
Read DR=68.8 from table
CIPP wall thickness t=12/68.8=0.174″

<u>TESTING REQUIREMENTS</u>

1. Chemical Resistance - The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that

CIPP samples with and without plastic coating meet these chemical testing requirements.

2. Hydraulic Capacity - Overall, the Hydraulic profile shall be maintained as large as possible. The CIPP shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition. The roughness coefficient of the CIPP shall be verified by third party test data.

3. CIPP Field Samples - When requested by the Cooperative member, the Contractor shall submit test results from previous field installations in the USA of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in the Structural Requirements Section have been achieved in previous field applications. Testing samples for this project shall be made and tested as described in Inspections Section below.

INSTALLATION RESPONSIBILITIES

1. It shall be the responsibility of the Cooperative member to locate and designate all manhole access points open and accessible for the work, and provide rights of access to these points. If a street must be closed to traffic because of the orientation of the sewer, the Contractor shall institute the actions necessary to do this for the mutually agreed time period with the Cooperative member. The Cooperative member shall also provide free access to water hydrants for cleaning, inversion and other work items requiring water.

2. Cleaning of Sewer Lines - The Contractor, shall remove all internal debris out of the sewer line that will interfere with the installation of CIPP. The Contractor shall also provide a dumpsite for all debris removed from the sewers during the cleaning operation. Any hazardous waste material encountered during this project will be considered as a changed condition.

3. Bypassing Sewage - The Contractor, shall provide for the flow of sewage around the section or sections of pipe designated for repair. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow. The Cooperative member may require a detail of the bypass plan to be submitted.

4. Inspection of sewer line - Inspection of sewer line shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by close circuit television. The interior of the sewer line shall be carefully inspected to determine the location of any conditions which may prevent proper installation of CIPP into the sewer lines, and it shall be noted so

that these conditions can be corrected. A video tape and suitable log shall be kept for later reference by the Cooperative member.

5. Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions such as solids and roots that will prevent the insertion of CIPP. If pre-installation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that will prevent the inversion process, and it cannot be removed by conventional sewer cleaning equipment, then the Contractor shall make a point repair excavation to uncover and remove or repair the obstruction. Contractor shall notify the Cooperative member's representative prior to the commencement of the work regarding these point repairs and such excavation and repair shall be paid at the established point repair price. The Contractor will be responsible for all costs and liability associated with such excavation and restoration work.

6. The Contractor shall make every effort to maintain service usage throughout the duration of the project. In the event that a service will be temporarily out of service, the maximum amount of time of no service shall be 12 hours for any property served by the sewer. The Contractor shall be required to notify the City and all affected properties whose service laterals will be out of commission and to advise against water usage until the sewer main is back in service. Such notification shall be provided to the Cooperative member at least one week prior to service disconnecting.

7. Public Notification - A public notification program shall be implemented, and shall as a minimum, require the Contractor to be responsible for contacting each home or business connected to the sanitary sewer and informing them of the work to be conducted, and when the sewer will be off-line. The Contractor shall also provide the following:

   A. Written notice to be delivered to each home or business describing the work, schedule, how it affects them, and a local telephone number of the Contractor they can call to discuss the project or any problems which could arise.

   B. Personal contact and attempted written notice the day prior to the beginning of work being conducted on the section relative to the residents affected.

   C. Personal contact with any home or business which cannot be reconnected within the time stated in the written notice.

8. The Contractor shall be responsible for confirming the locations of all branch service connections prior to inversion and curing the CIPP.

INSTALLATION

CIPP installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with the following modifications:

1. Resin Impregnation - The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used. To ensure a thorough wetout, the point of vacuum shall be no further than 25 feet from the point of initial resin introduction. After vacuum in the tube is established, the vacuum points shall be no further than 75 feet from the leading edge of the resin. The leading edge of the resin slug shall be as near to perpendicular as possible. A roller system shall be used to uniformly distribute the resin throughout the tube.

2. Tube Insertion – The wetout tube shall be positioned in the pipeline using either inversion or a pull-in method. If pulled into place, a power winch should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.

3. Temperature gauges shall be placed inside the tube at the invert level of each end to monitor the temperatures during the cure cycle.

4. Curing shall be accomplished by utilizing water under hydrostatic pressure in accordance with the manufacturer's recommended cure schedule.

REINSTATEMENT OF BRANCH CONNECTIONS

It is the intent of these specifications that branch connections to buildings be reopened without excavation, utilizing a remotely controlled cutting device, monitored by a video TV camera. The Contractor shall certify he has a minimum of 2 complete working cutter units plus spare key components on the site before each inversion. No additional payment will be made for excavations for the purpose of reopening connections unless previously specified by the Cooperative member prior to the start or work. The Contractor will be responsible for all costs and liability associated with such excavation and restoration work.

INSPECTION

CIPP samples shall be prepared and physical properties tested in accordance with ASTM F1216 or ASTM F1743, Section 8, using either method proposed. The flexural modules must meet or exceed the values used in the Design Section.

Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743. The minimum wall thickness at any point shall not be less than 87 ½% of the design thickness as calculated in the Design Section of this document.

Visual inspection of the CIPP shall be in accordance with ASTM F1743, Section 8.6.

MEASUREMENT AND PAYMENT

1. The inserted CIPP shall be paid for per linear foot of the pipe size specified and shall include all incidentals for which prices are not established within the bid tab. Unless otherwise specified by the Cooperative member, measurements will be taken from center to center of manholes.

2. Video inspection of sanitary sewer line shall be paid for per linear foot to T.V. the entire length of sewer pipe before the proposed construction.

3. Point repairs of the sanitary sewer lines or service connections shall be paid on a per each basis. A point repair shall include all labor, equipment, and materials including, but not limited to, excavation, pipe, tee, embedment, backfill, removal and replacement of fence, trench safety and landscape restoration of excavated areas. A maximum length of pipe as specified in Section F, Point Repair, will be required at each point repair. If additional pipe is required, additional point repairs will be paid for each increment as specified or on a linear foot basis for additional length point repair price as bid.

WARRANTY

The work performed under this Contract shall be warranted to be free from defects in material and workmanship for a period of one year from the date of acceptance. If the Cooperative member determines that the process has failed during the warranty period, the Contractor will perform any and all repairs at no additional cost to Cooperative member.

Section B

PIPEBURSTING SPECIFICATION

<u>PART 1 – GENERAL</u>

1.01 SCOPE

A. This specification shall govern the rehabilitation of existing, gravity sanitary sewers by a method known as Pipebursting. Pipebursting is a system by which the burster unit splits the existing pipe while simultaneously installing a new HDPE, PVC or other conduits receiving the prior approval of the Owner as designated by an appropriate bid item. The new pipe may be of the same or larger size.

B. The scope of work requires the Contractor to provide all materials, labor, equipment, and services necessary for bypass pumping and/or diversion of sewage flows, rehabilitation of existing sanitary sewers by bursting the existing pipe and inserting approved new pipe, reconnection of active sewer house connections, anchoring new pipe, restoring affected manhole conditions, initial cleaning, CCTV inspection and final testing of the pipe system.

C. In addition to the reconnecting of the existing lateral and sewer service connections, this contract may also include the installation of a cleanout at the right-of way, easement boundary or at a location so designated by the owner before pipebursting commences on the main line, television inspection of the new pipe and completion of the installation in accordance with the contract documents.

D. Only pneumatically operated pipebursting equipment with either front or rear expanders for the proper connection to the new pipe will be allowed unless otherwise approved by the owner prior to installation. Exception to this requirement will only be considered where a static burster unit, or other approved construction technique, is proposed for use on isolated segments of pipeline that are to be replaced and that are closely adjacent to building foundations or other vulnerable structures where pneumatic bursting might be detrimental. The pneumatic burster must be used in conjunction with a constant tension hydraulic twin capstain winch of 20, 10, 8, or 5 tons; the size of the winch depends on the diameter of the pipe to be replaced. In no case is the constant tension to exceed 20 tons.

E. <u>The sewer replacement work details include:</u>

1. <u>Site planning and preparation</u>
    a. Perform site investigation
    b. Perform initial cleaning and CCTV Inspection of sewer to be replaced.
    c. Formulate and execute plans for point repair excavation, launching pipe excavation, layout for sewer by-pass pumping system, marking existing utilities, laterals, cleanout, etc.
2. <u>Pipe Installation</u>
    a. Locate all existing utilities.
    b. Excavate launching pit.

c. Install sewer bypass pumping system.
d. Excavate to relieve effects of bursting to existing utilities.
e. Excavate to expose all existing laterals.
f. Provide tanker and pump, to extract from lateral.
g. Install new sewer pipe by pipebursting method.
h. Install new manholes where required.
i. Anchor pipe and seal manholes.
j. Reconnect all active lateral connections to new sewer main.
k. Inspect, restore, and rehabilitate manholes as to restore damage caused by pipe installation.
l. Perform final cleaning and CCTV sewer inspection.
m. Remove sewage by-pass system.
n. Backfill and restore excavations within 5 calendar days.

3. Clean up and restore existing surface condition and structures within 10 calendar days.
4. Repair any defective work per Owner's final inspection.

F. The contractor is responsible for proper and accurate installation of the new sewer pipe regardless of the method described in this section and the following subsections. The contractor shall ensure that the new pipe's vertical and horizontal alignment is as indicated on the plans and/or as existing in the field in accordance with these specifications.

G. Supplying all labor, materials, equipment, and apparatus not specifically mentioned herewith or noted on the plans, but which are incidental and necessary to complete the work specifications,

1.02 QUALIFICATIONS

A. Polyethylene pipe jointing/fusing shall be performed by personnel trained in the use of butt-fusion equipment and recommended methods for new pipe connections. Personnel directly involved with installing the new pipe shall receive training in the proper methods for handling and installing the polyethylene pipe. A qualified representative shall perform training.

B. Contractor shall hold the Owner and Engineer (if applicable) harmless in any legal action resulting from patent infringements.

C. <u>Contractor or Pipebursting Subcontractor shall have:</u>

1. Minimum experience of 150,000 L.F. of pipe bursting existing gravity sanitary sewer pipe and replacing with polyethylene pipe within the last three years, AND,
2. Minimum experience of 10,000 L.F. of pipe bursting replacement experience with each of the following nominal host pipe-to-polyethylene pipe sizes in the last three years:
    a. 6-inch burst to 8-inch diameter
    b. 8-inch burst to 10-inch diameter
    c. 10-inch burst to 12-inch diameter
    d. 12-inch burst to 16-inch diameter
    e. 15-inch burst to 18-inch diameter
    f. 18-inch burst to 21-inch diameter, AND
3. Minimum experience of 10,000-linear feet of other approved pipebursting techniques (static) where pneumatic is not to be used on isolated segments of pipeline that are to be replaced and that are closely adjacent to building foundations or other vulnerable structures and where pneumatic bursting might be detrimental.

1.03 STANDARD SPECIFICATIONS

A. Except as otherwise indicated, the current editions of the following apply to the work of this section:

1. ASTM D-1238 Measuring Flow Rates of Thermoplastics by Extrusion Power
2. ASTM D-1248 Specification for Polyethylene Plastics Molding and Extrusion Materials
3. ASTM D-1505 Density of Plastics by the Density-Gradient Technique
4. ASTM D-1599 Test for Short Term Rupture Strength of Plastic Pipe, Tubing and Fittings
5. ASTM D-1693 Test for Environmental Stress-Cracking of Ethylene Plastics
6. ASTM D-1928 Preparation of the Compression Molded Polyethylene Test Samples
7. ASTM D-2122 Determining Dimensions of the Thermoplastic Pipe and Fittings
8. ASTM D-2321 Underground Installation of Thermoplastic Flexible Sewer Pipe
9. ASTM D-2348 Standard Test Method for Arsenic in
10. ASTM D-2412 External Loading Characteristics of Plastic Pipe by Parallel Plate Loading, Determination of
11. ASTM D- 2657 Practice for Heat-Jointing Polyolefin Pipe and Fittings
12. ASTM D-2837 Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
13. ASTM D-3035Q Specification for Polyethylene Plastic Pipe Based on Controlled Outside Diameter (UO to 6' IPS)
14. ASTM D-3261 Specification for Polyolefin Plastic Pipe and Fittings Material
15. ASTM D-3550 Specification for Polyethylene Plastic Pipe and Fittings Material
16. ASTM D-3550 Standard Price for ring lined barrel Sampling of Soils
17. ASTM F 477 Elastomeric Gaskets (Seals) for Joining Plastic Pipe
18. ASTM F-585 Practice for Insertion of Flexible Polyethylene Pipe into Existing Sewers
19. ASTM F-714 Specification for Polyethylene Based On Outside Diameter
20. AWS D1.1 AWS Standard Qualification Procedure

1.04 REGULATORY REQUIREMENTS

A. The Work of this section shall comply with the current versions, with revisions, of the following:

1. OSHA 29CFR 1910.146 (permit required confined space regulations

B. All work and testing shall comply with the applicable Federal codes including the Federal Occupancy Safety and Health Act of 1970, the Construction Safety Act of 1969, as amended and applicable state and local codes and standards. All work and testing shall also comply, to the extent applicable, with the requirements of the Underwriter's Laboratories, Inc. and the National Electric Code.

1.05 RESPONSIBILITY FOR OVERFLOWS OR SPILLS

A. It shall be the responsibility of the Contractor to schedule and perform his work in a manner that does not cause or contribute to incidence of overflows or spills of sewage from the sewer system.

B. In the event that the Contractor work activities contribute to overflows or spills, the Contractor shall immediately take appropriate action to contain and stop the overflow, clean up spillage, disinfect the area affected by the spill, and notify the designated Owner or Owner's representative in a timely manner.

C. Contractor will indemnify and hold harmless the Owner for any fines or third-party claims for personal property damage arising out of a spill or overflow that is fully or partially the responsibility of the Contractor. This includes the legal, engineering and administrative expenses of the Owner in defending such fines and claims.

1.06 SUBMITTALS

A. The following shall be submitted to the Owner in writing prior to Notice to Proceed or at required phases. Failure to do so will prevent progression of the Work to the next stage.

1. Shop Drawings, catalog data, and manufactures technical data showing complete information on material composition, physical properties, and dimensions of new pipe and fittings. Include manufacture's recommendations for handling, storage, time for reconnection of laterals after bursting following relaxation of HDPE, joint welding and repair of pipe and fittings damaged.
2. The contractor shall prepare and submit, for the Owner's approval, a general, detailed methodology of the Pipe Bursting Plan, including materials and equipment, lateral numeration and manhole restoration procedure and materials, by-pass pumping system accommodation and maintenance of intermediate flows and connections, plan of operation, schedule of Work and construction and restoration of existing sewer service connections.
3. A detailed methodology for each set-up during the course of the contract, but not less than ten days before bursting is planned to commence. This detailed methodology shall be pre agreed with the Contractor, the Owner, and the property owner.
4. Detail drawings and written descriptions pf the entire construction procedure to install pipe, bypass sewage flow and reconnection of sewer service connections, restoration of manhole base and provision for facilitating watertight junction of new pipe to existing and reconstructed manholes.

5. Certification of employees welding and installing pipe.
6. Engineering calculations for the design of HDPE pipe thickness per pipe segment. The design calculations shall be checked and approved by a registered Professional Civil Engineer in the State where work is to be completed. Pipe design calculations shall be supported by field analysis and technical assumptions. The contractor shall submit calculations to show that stresses on proposed pipe during pipe bursting operation are below the rated pipe yield stress limit. Loads used in calculation will include soil dead load (120 pcf soil density), applicable live load, pressure from high water level, and the maximum pushing and/or pulling force imposed by pipe bursting equipment. The calculated wall thickness derived using the above design criteria shall be compared to the specified (bided) pipe thickness (SDR). The Engineer then has the right to either keep the specified pipe thickness (SDR) or change to the calculated pipe thickness for installation. Material cost shall be adjusted accordingly.
7. Pre and post upgrade CCTV inspection reports and videotapes. Post upgrade reports and videotapes shall be made after pipe installation and re-connection of all laterals and immediately prior to the commissioning stage.
8. Methodology for dealing with any possible ground heave shall be fully detailed in both in relation to:
    a. Restoration of Landscape areas- restoration of ground contours and surface treatment to meet reasonable requirements of the property owner, and
    b. Streets: Restoration of street contours to original conditions.
9. Manhole rehabilitation and invert rebuilding method and materials, if applicable.
10. Manufacturer's technical literature on the proposed pipebursting system, including an affidavit attesting to the previous successful use of the material for lining sewers.
11. A written verification at least 2 days before commencing bursting that the sewer is free of obstructions and debris and is in suitable condition for bursting.
12. Drawings and design calculations demonstrating adequacy of any proposed temporary work including excavation, locations, sheeting and shoring, method of dewatering, other utilities that may be affected; width and length of working area access pit and portions of existing sewer to be removed to conduct Work.
13. Process Control Sheet to include Winch load information, Excavation reinstatement, Tap cut information and pre and post submittal follow up record/survey inspection report, alignment inspection where bursts are complete.
14. HDPE Repair Methods, if required.
15. Point Repair Methods, if required.
16. Daily Logs, Weekly Time Sheets as required.
17. Physical Sample after completion of each section.
18. Seismic Monitoring Plan Including details of Licensed Structural Engineer to be used for building surveys.

1.07 TRIAL TEST AND METHODOLOGY REVIEW

A. The Contractor shall comply with the following conditions before a pipe bursting technique becomes accepted as a viable option on a repeat basis:

1. A successful demonstration trial length of sewer pipeline, chosen by the Engineer, which requires that pipebursting shall be carried out including type and quality control tests as recommended by the manufacturer and in compliance with third party specification.
2. The trial shall be carried out at the measured rate prior to approval for adoption by the Owner of the pipebursting system to prove that the equipment, materials, and installation methodology are fully acceptable to meet local conditions.
3. The Contractor shall allow for any further requirement of the Owner, subsequent to the trial, to modify the equipment, material and/or installation methodology in order to complete the Work satisfactorily and meet all testing standards at no cost to the city.
4. The Owner shall formally accept the Contractor as having successfully completed the trial stage should this be the case.

PART 2- PRODUCTS

2.01 MATERIALS

A. Polyethylene Plastic Pipe shall be high-density (HDPE) solid wall polyethylene pipe in accordance with the requirements included herein. This section shall also govern the use of the material in other HDPE applications under this contract.

1. Sizes of the insertions to be used shall be such to renew the sewer to grater flow capacity.
2. All pipes shall be made of virgin material. No reworked material shall be used except that obtained from the manufacturer's own production of the same formulation.
3. The pipe shall be homogenous thought and shall be free of visible cracks, discoloration, pitting, varying wall thickness, holes, foreign material, blisters, or other deleterious faults.
4. Dimensions Ratios: The minimum wall thickness of the polyethylene pipe shall be SDR 19 throughout where the pipe depth is less than 16 feet. Where pipe depth is greater than 16 feet SDR 17 polyethylene pipe shall be used, where required by the Owner, pipes may be tested at ground surface for circularity before installation and welding commences. Circularity will be checked by pulling a closed cylindrical mandrel through the polyethylene pipe. The mandrel shall be at least three times the diameter of the pipe in length, and not greater than the inside diameter of the pipe minus two millimeters. Pipes will be rejected which have greater than 5% deformation due to thermal softening.
5. Material color shall be black or gray.

2.02 DELIVERY, STORAGE, AND HANDLING

A. Transportation, handling, and storage of the polyethylene pipe and fittings shall be as recommended by the manufacturer.

B. If new pipe and fittings become damaged before or during installation, it shall be repaired as recommended by manufacturer or replaced as required by the Owner at the Contractor expense, before proceeding further.

C. Deliver, store, and handle other materials as required to prevent damage.

2.03 MATERIAL TESTS

A. Contractor shall furnish samples and material tests demonstrating compliance with this specification from an independent laboratory to verify the required physical properties and characteristics of supplied materials in accordance with the applicable ASTM Specification.

B. A certificate shall be furnished by the manufacturer, upon request, for all material furnished under this specification. Polyethylene plastic pipe and fittings may be rejected that does not meet any requirements of this specification. The Owner shall pay for tests on pipe material that meets specification requirements. Contractor shall pay for failed tests and re-testing of failed materials.

2.04 EQUIPMENT

A. The pipebursting tool shall be designated and manufactured to force its way through existing pipe materials by fragmenting the pipe and compressing the old pipe sections into the surrounding soil as it progresses. The bursting unit shall generate sufficient force to burst and compact the existing pipeline. See manufacturer's specifications for what size tool should be used in what diameter of pipe, as well as parameters of what size tool for percentage of upsize allowed.

B. The pipebursting tool shall be pulled through the sewer by a winch located at the reception manhole. The bursting unit shall pull the polyethylene pipe with it as it moves forward. The bursting head shall incorporate a shield/expander to prevent collapse of the hole ahead of the PE pipe insertion. The pipebursting unit shall be remotely controlled.

C. The bursting action of the tool shall increase the external dimensions sufficiently, causing breakage of the pipe at the same time expanding the surrounding ground. This action shall not only break the pipe but also create the void into which the burster can be winched and enable forward progress to be made. At the same time the polyethylene pipe, directly attached to the sleeve on the rear of the burster, shall also move forward.

D. The burster shall have its own forward momentum while being assisted by winching. A hydraulic winch shall give the burster friction by which it can be moved forward. To form a complete operating system, the burster must be matched to a constant tension hydraulic winching system.

2.05 WINCH UNIT

A. A winch shall be attached to the front of the bursting unit. The winch shall provide a constant tension to the burster in order that it may operate in an efficient manner. The winch shall ensure directional stability in keeping the unit online.

B. The winch shall be of the constant tension type but shall be fitted with a direct reading load gauge to measure the winching load, which must automatically be maintained at a constant tension at a set tonnage reading. The winch, which shall be operated to provide a constant tension through the bursting operation, shall supply sufficient cable in one continuous length so that the pull may be continuous between approved winching points.

C. The winch, cable, and drum must be provided with safety cage and supports so that it may be operated safely without injury to persons or property.

D. The Contractor shall provide a system of guide pulleys and bracing at each manhole to minimize cable contact with the existing sewer between manholes.

E. The supports to the trench shoring in the insertion pit shall remain completely separate from the winch boom support system and shall be so designed that neither the pipe nor the winch cable shall be in contact with them.

PART 3 – EXECUTION

3.01 SEWER SERVICE CONNECTIONS

A. All sewer service connections shall be identified and located prior to pipe insertion. The complete list of service laterals; included relevant footage and diameter of lateral shall be submitted prior to pipebursting to the Owner for information. Upon commencement, pipe insertion shall be continuous and without interruption from one manhole to another, except as approved by the Owner or Owner's representative. Upon completion of insertion of the new pipe, the Contractor shall complete the reconnection of all service laterals on the segment within 24 hours of completing pipe bursting, to minimize any inconvenience to customers, but to allow sufficient time for a newly installed pipe to "relax".

B. The preferred method of saddle connection to the main line shall be either by a) Fernco Coupling b) Inserter Tee (Fowler Manufacturing, Oregon, or approved equal), or c) Electrofusion saddle connection shall be a branch saddle (as manufactured by Central Plastics Company, Driscopipe, Miller, Dupont or approved equal).

   1. Electrofusion saddles shall be made of polyethylene pipe compound that meets the requirements of ASTM D-1248, Class C and suitable for fusion welding to pipebursting pipe.
   2. Connections to the existing sewer house connection pipe shall be made using sleeved stainless steel flexible couplings. All flexible couplings shall conform to ASTM C-425 and shall be as manufactured by Fernco Joint Sealer Co., DFW Plastics, Inc., or approval equal.

C. Saddle material shall be compatible with that of the main pipe.

D. As required, a cleanout will be installed at the right-of-way or easement boundary on all service reconnections in accordance with the detail shown on the Owner’s standard construction drawings. The cleanout shall incorporate all appropriate and necessary couplings to both the lateral connections and service line connection. Excavation for the cleanout and all appropriate and necessary couplings shall be included in the cost of the cleanout.

3.02 EXISTING FLOW

A. The Contractor shall provide bypass for controlling wastewater flow and sized appropriately to account for maximum estimated flow based on available flow information provided by the Owner.

B. The Contractor shall be responsible for maintaining continuous sanitary sewer service to each property connected to the segment of sewer subject to pipe bursting operations. The cost of dealing with tanking, bypass pumping and all other private service flow management shall be included in the rate for pipe replacement.

C. If sewage backflow occurs and enters buildings, the Contractor shall be responsible for clean-up, disinfection, repair, property damage as well as resultant costs and claims.

3.03 PRE-INSTALLATION CCTV INSPECTION

A. Pipelines that will be upgraded by pipebursting and shall be televised (CCTV) in conformance with the Video Inspection specification included herein.

3.04 CORRECTION OF PIPE SAG OR COLLAPSE

A. Significant sags in the sewer pipe or a collapse (Point Repair) must be corrected prior to renewing the sewer pipe by pipe bursting. Correction will be accomplished by point repair.

3.05 CONSTRUCTION METHOD

A. Equipment used to perform the Work shall be located away from buildings in order to minimize noise impact, which under all circumstances shall be less than 70 dB unless otherwise allowed by the Owner due to circumstances beyond the Contractor or pipebursting Subcontractor. A silent engine compartment with the winch shall be provided to reduce the noise.

B. The Contractor shall install all pulleys, rollers, bumpers, alignment control, devices and other equipment required to protect existing manholes, and to protect the polyethylene pipe from damage during installation. Lubrication may be used as recommended by the manufacturer. Under no circumstances shall the pipe be stressed beyond its elastic limit. The winch line must be centered in the existing pipe to be burst with an adjustable boom.

C. The installed polyethylene pipe shall be allowed to relax and cool following installation in accordance with the manufacturers recommended time, but not less than a minimum of four (4) hours (preferably 8 hours) prior to any reconnection of service lines, scaling of the annulus, or backfilling of the insertion pit, unless otherwise allowed by the Owner. Sufficient excess length of new pipe, but not less than 4 inches, shall be allowed to protrude into the manhole to provide for further length reduction. End restraint of pipe ends shall be utilized in accordance with the manufactures recommended procedures.

D. Following a relaxation period of twenty-four (24) hours, the annular space may be sealed. Sealing shall be made with materials approved by the Owner or Owner's representative and shall extend a minimum of four (4) inches through the manhole wall into the manhole in such a manner as to form a smooth, uniform, watertight joint.

E. The Contractor shall use pipe-carrying rollers to keep the pipe above flowers, shrubs, and other vegetative or structural landscaping features that could be damaged by contact with the pipe.

3.06 POST INSTALLATION CCTV INPECTION

A. Following installation of new pipelines between manholes where bursting has occurred, CCTV inspection shall be carried out in conformance with the Video Inspection specification included herein. The finished tape shall be continuous over the entire length of the sewer between two manholes and shall be completely free from visual defects.

B. Defects, which may affect the integrity or strength of the pipe in the opinion of the Owner, shall be repaired or the pipe replaced at the Contractor's expense.

C. Post construction videotape, upon completion of reconstruction of each reach of sewer, as appropriate with stationing of services indicated. Data and stationing to be on video.

D. Video data shall remain property of the Owner. Contractor shall retain second copy for his use.

E. Post construction videotapes shall be available to view within one month after the project is completed. Post construction videotapes and a DVD/CD-ROM conversion of the documented videos shall be submitted to the city before final invoices and retainage is released.

F. If any portion of the inspection tapes is inadequate quality or coverage, as determined by the Owner, the Contractor will have the portion re-inspected and videotaped at no additional cost to the Owner.

G. Protection and Restoration of Work Area Disturbance to the ground surface resulting from heave during Pipe Bursting shall be corrected to meet the engineer's requirements and the area shall be restored in accordance with methods referenced elsewhere in this section.

H. All costs associated with Post-CCTV inspection shall be considered incidental to the pipebursting work.

3.07 PIPE JOINING

A. The polyethylene pipe shall be assembled and joined at the site using the butt-fusion method to provide a leak proof joint in strict accordance to the manufacturer's instructions and ASTM D 2657. Threaded or solvent-cement joints and connection are not permitted.

B. All equipment and procedures used shall be used in strict compliance with the manufacturer's instructions and recommendations. Fusing shall be accomplished by personnel who are certified as fusion technicians by a manufacturer of polyethylene pipe and/or fusing equipment.

C. The butt-fused joint shall be true alignment and have uniform rollback beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal of pressure. The fused joint shall be watertight and shall have tensile strength equal to that of the pipe.

D. All joints shall be subject to acceptance by the Owner or Owner's representative prior to insertion. All defective joints shall be cut and replaced at no cost to the Owner. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault grater in depth than ten percent (10%) of the wall thickness, shall not be used and must be removed from the site. However, a defective area of the pipe may be cut, and the joint fused in accordance with the procedures stated above.

E. Any section of the pipe having other defects such as concentrated ridges, discoloration, excessive spot roughness, pitting, variable wall thickness or any other defect of manufacturing or handling as determined by the Owner or Owner's representative shall be discarded and not used.

F. Terminal sections of pipe that are joined within the insertion pit shall be connected with Owner approved couplings or connectors with tensile strength equivalent to that as the pipe being joined.

PART 4- WARRANTY

4.01 MATERIAL WARRANTY

A. A written guarantee of 1 year shall be submitted to the Owner for the specific project, and provided by the Manufacturer, against any breakdown of the polyethylene pipe material effectiveness.

4.02 WORKMANSHIP WARRANTY

A. A written construction warranty of 1 year shall be provided to the Owner, by the Contractor, against all defects in workmanship.

PART 5- PAMENT

B. Payment for the work included in this section shall be in accordance with the prices set forth in the proposal for the quantity of work performed.

Section C

CLEANING, ROOT REMOVAL, OBSTRUCTION REMOVAL

CLEANING

1.01 <u>GENERAL</u>

The Contractor will determine the most cost-effective method to clean manholes, catch basins, wet wells, and sanitary or drain lines. A daily log shall be maintained to record the location of the manholes, catch basins, wet wells sanitary and drain lines cleaned; lengths of the lines cleaned; method of cleaning; line sizes; and volume and type of debris removed. Observations are to be recorded on a satisfactory cleaning report form to be provided by the Cooperative member.

1.02 <u>EQUIPMENT</u>

The equipment expected to be used for the cleaning work includes a high velocity sewer cleaner supplying water capable of at least 80 gpm, with debris removal equipment. Other equipment which might be necessary and shall be available but may be relevant to a separate pay item, include bucket machines, rod machines, hydraulic root cutters, porcupines, kites, vacuum trucks, and balling equipment appropriate to the need.

1.03 <u>EXECUTION</u>

If the cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be re-setup on the other manhole and cleaning attempted again. If successful cleaning cannot then be performed, it will be assumed that a major blockage exists and the cleaning effort shall be abandoned until an excavation and "point repair" can be made. After removal of the blockage the Contractor will again clean the line section. All sludge, dirt, sand, grease, rocks, and other solid or semi-solid materials resulting from the cleaning operation shall be removed from the downstream manhole of the section being cleaned. Passing material without removal from the collection system will not be tolerated. The Contractor shall not be responsible for removing mortar or other material which is securely attached to the pipe walls or joint.

Cleaning will be determined to be complete when video inspection of the pipe indicates that all loose debris has been removed so that all of the pipe wall is visible.

1.04 <u>DISPOSAL OF MATERIALS</u>

Materials shall be disposed of from the work site not less often than once at the end of each workday. The Contractor will provide satisfactory evidence daily to the Cooperative member of the amount of material removed from the pipes. These quantities will be subjected to certification, as deemed necessary by the Project Manager or Engineer.

The Contractor shall dispose of materials removed during the cleaning process at location designated by the Cooperative member. He must first contact either the superintendent or the operator on duty before disposal. The Contractor shall adhere to all local, state, and federal guidelines in disposal of this material.

ROOT REMOVAL

A. General: This item shall govern for removal of roots from pipe joints at locations selected by the Engineer.

B. Methods: Special precautions should be exercised to assure removal of visible roots from the joint area which could prevent rehabilitation of the pipe. The use of mechanical devices such as rodding machines, expanding root cutters and porcupines, and hydraulic procedures such as high pressure jet cleaners shall be used, if required. When roots are encountered in a pipe, the Contractor shall notify the Engineer before proceeding with root removal. All roots removed from the joint area shall be removed from the downstream manhole of the line section containing the roots.

The work shall be performed in a manner which will not damage the pipe, manholes or access points and the working area. The Contractor shall repair any damage and restore the working area at his expense. Where appropriate and as designated by the owner, chemical root control applications may be considered. Chemical root control applications shall be governed by a specification supplied by the owner and approved of by the contractor.

C. Measurement: The work will be measured by the lineal foot length of each line section that roots were removed in and which was included on a work order issued by the Engineer.

D. Payment: All work performed and measured as provided under "Measurement" will be paid for at the unit price bid, which price shall be full compensation for root removal as specified under "Methods", and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

OBSTRUCTION REMOVAL

A. Description and Purpose: The purpose of an obstruction removal is to clear the sewer main from obstructions so as to allow rehabilitation by any method. Obstruction removal by Remote device for cured-in-place or expanded-in-place rehabilitation:

1. To remove protruding taps (service lines that are protruding greater than one inch into the sewer) or as directed by the engineer.

2. To remove other obstructions.

3.

B. Obstruction Removal by Remote Device:

This method of obstruction removal shall be performed prior to rehabilitation. When a T.V. tape of a previously or currently televised sanitary line identifies an obstruction which could cause a non-uniform liner pipe or obstruction during installation of the liner, it shall be removed. The Contractor shall ask the Engineer for approval of obstruction removal with a remote device using one of the following:

1. To remove PROTRUDING TAPS prior to the inversion of a cured-in-place or expanded-in-place liner, a power driven cutting device shall be utilized. The protruding tap shall be cut so that the protrusion is no greater than 3/4 inch. Damage to the existing sewer line or service line will result in no payment for this method and a point repair shall be done. If the Contractor is unable to remove the protruding tap by this means, then a point repair may be performed at the Engineer's direction.

2. To remove OTHER OBSTRUCTIONS, such as: hanging gaskets, fixed debris, stabilized sand, hardened mineral deposits, heavy roots, etc., a remote device shall be utilized. The device(s) shall be pulled or driven from manhole to manhole using a solid steel mandrel, porcupine, root saw, bucket, etc. to remove the obstruction. The device shall be adequately sized to remove the obstruction to the satisfaction of the Engineer.

PAYMENT

Obstruction removal by Remote device will be paid as a per bid item. The Contractor shall receive payment for an obstruction removal when the work has cleared the sewer main to be lined.

Any cleaning of sanitary sewers due to broken pipe, roots, dirt, and loose deposits, etc. will be incidental to obstruction removal by remote device. If any TV inspection is involved, it will be incidental.

Removal of hard deposits, concrete, debris, pipes or any other material in the manhole or that is within the outside wall of the manhole will be incidental to the rehabilitation of sanitary sewer pipes and manholes.

Section D

Video Inspection and SSES Oriented tasks

VIDEO INSPECTION

1.01 GENERAL

When cleaning is completed, the Contractor will proceed with the video inspection.

1.02 EXECUTION

Pipe inspection shall be accomplished by one of the following methods:

A. Video 4”-6” sanitary or storm sewer service laterals

1. The Contractor shall provide a color mini-camera based closed circuit television inspection system. This system will be used to remotely inspect service laterals from the cleanout. Picture quality should be of a degree of quality to allow a thorough evaluation of service lateral condition.

B. Evaluation Video Inspection of 6" thru 54” Mainline Pipe

1. The Contractor shall use a closed circuit color video system to remotely inspect the pipe. The television camera used for the inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera, television monitor, the video recorder, and other components of the video system shall be capable of producing the picture quality required to properly evaluate the condition of the pipe being inspected.

2. Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole.

   Maximum Depth of Flow for Television inspection:

6"- 10" Pipe	20% of pipe diameter
12” – 24” Pipe	25% of pipe diameter
Greater than 24" Pipe	30% of pipe diameter

The Contractor will be required to dewater pipe dips as necessary to allow the required visibility. This dewatering will be considered incidental to the video inspection. Picture quality and definition shall be to the satisfaction of the Cooperative member.

3. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the pipe's condition. In no case will the television camera be moved at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the pipe conditions shall be used to move the camera through the line. If during the inspection operation the television camera will not pass through the entire section due to an obstruction such as a dropped joint, crushed pipe, etc., the Contractor shall set up his equipment so that the inspection can be performed from the opposite end. If, again, the camera fails to pass through the entire section because of an obstruction, a point repair will be completed prior to resuming video inspection. Point repairs must be approved by the Cooperative member prior to excavation.

4. The importance of accurate distance measurements is emphasized. Measurement for location of defects and service connections shall be done with a metering device located in the video inspection van. The footage reading of the counter must be displayed at all times on the monitor and on the videotape. Marking on the cable, or the like, which would require interpolation for manhole depth, will only be allowed at the discretion of the Cooperative member. Accuracy of the distance meter shall be checked by use of a tape and the accuracy shall be within 2%.

5. The location of all significant pipe defects shall be recorded on the inspection log, such as cracked and missing pipe, degree of pipe deterioration, open or shifted joints, leaking joints, relative leak sizes, crushed pipe, and obstructions. The log shall also show pipe type, size, depth, manhole locations, and location of all service connections. In addition, the Contractor must determine and record the street number addresses of all manholes. When requested by the Cooperative member, major defects (protruding defective taps, shifted and dropped joints) shall also be identified by the street number address.

6. After issuance of a video inspection work order, but prior to initiation of field inspection work, the Contractor will field survey the work order area to confirm manhole addresses within the work order scope. The Contractor must use the Cooperative member addressing standard for this inventory.

7. A videotape recording will be made by the Contractor of all pipe sections video inspected. The videotape will include a complete "color" video and audio record of the entire inspection. The video unit shall have the capability of permanently displaying on the video tape information concerning the pipe inspected, including project number, date, street name, manhole designations, size of pipe and the footage counter. On a timely basis the Contractor will deliver to the Cooperative member a copy of the video tape(s) produced during that week as well as copies of the "Television Inspection Report Form" which shall be completed during each video inspection. The form shall be approved by the Cooperative member prior to the commencement of work. For the duration of the Contract the Contractor will maintain a library containing a copy of all videotapes generated on this Contract.

8. The Contractor shall be paid for the actual linear feet of pipe inspected at the bid unit prices for the various sizes of sanitary or storm sewer pipes. A "reverse setup" occurs when a line section must be television inspected from both directions because an obstruction halted camera progress from the initial setup.

1.03 COMPILATION OF DATA

The Contractor shall utilize a Cooperative member pre-approved CCTV inspection format.

SSES GENERAL USE SPECIFICATIONS

Task 1 – Preparatory Work and Mobilization

1. Collect and review existing information including reports, maps, flow records, water records, maintenance records and other pertinent information related to this project.

2. Printing of all field forms and preparation of map with numbers assigned to manholes to be used in the project.

3. Preparation of equipment to be assigned and transported to the project site.

4. Hold a project kick-off meeting prior to commencement of any work to ensure that all work is conducted in the most efficient manner with proper liaison among the Contractor, Owner and Inspection personnel; and, following all safety procedures.

5. Plan for traffic and pedestrian control to ensure public safety and convenience.

The compensation for this task will be on *a "Per Each"* basis paid as a mobilization item as bid.

Task 2 – Above Ground Physical Inspection

This task will be conducted to locate system assets for incorporation into the updated maps and for the GPS survey. Evidence of potential problems with the sewer system will also be noted. Infrared scanning, geophysical scanning (GEMS), limited smoke testing and electronic line locating systems may be employed to locate manholes or trace out sewer trunk mains and interceptors. Inspection field crews will also temporarily mark the located system assets to facilitate the GPS survey. The following will be accomplished during this task:

- Investigate the study areas for the purpose of documenting all system assets not shown on the current system maps
- Evidence of sinkholes
- Evidence of line breaks
- Provide listing of system assets that are shown on the existing system maps, but not located in the field
- Provide listing of system assets located by field crews but not shown on the existing system maps

- Provide listing of manholes that were located by field crews, but were not opened due to deterioration of the manhole cover and ring, etc.

The scope quantity will be determined by mutual agreement between the Contractor and the Owner. The compensation for this task will be on *a "Per Linear Foot"* basis.

Task 3 – Smoke Testing

Smoke will be introduced into the sewer system using a high capacity air blower testing two line segments or manhole reaches at a time. The air blower will have a minimum capacity of 4,000 CFM. This harmless and relatively odorless smoke testing will be performed under dry weather conditions to allow the maximum detection of inflow and rainfall responsive infiltration sources.

This task, as described above, will be employed on the sewer lines within the study area. Above ground reconnaissance of the study area to determine proximity of storm sewers, creek crossings, drainage paths and ponding areas to the sanitary sewer system will be accomplished concurrently with smoke testing and the visual manhole/line inspection. Digital photographs of every smoke leak found will be taken and sketches showing the leak location will be made and attached to the field forms.

Smoke testing data collected in the field will include:

- Upstream/downstream manhole number
- Length of sewer line
- Cover over line segment
- Leak location from two known reference points
- Degree of smoke observed
- Leak drainage path/ponding area
- Storm sewer crossings or cross connections
- Classifications of leaks as:
  - -Main line
  - -Manhole
  - -Public service line
  - -Private service line

The scope quantity will be determined by mutual agreement between the Contractor and the Owner. The compensation for this task will be based on a *"Per Linear Foot"* basis.

Task 4 – Manhole/Cleanout and Sewer Line Visual Inspection

This task consists of opening manholes, examining the interior and inspecting each sewer line entering and leaving the manhole. The sewer lines will be inspected by use of a manhole camera designed for inspection of sewer lines from the ground surface or descending into the manhole, when necessary. Photographs will be taken of the top of the manhole/cleanout, the interior and of all severe defects. Information gathered during this work, including photographs, will be provided with the field forms.

The following data will be recorded for each manhole inspected:

Manhole/Cleanout Data

- Manhole/cleanout identification number
- Construction materials and conditions of cover, ring, walls, steps, aprons and troughs
- Manhole depth
- Number and size of holes in manhole/cleanout cover
- Infiltration sources
- Evidence of leaks and location
- Level of high water mark in the manhole
- Type and depth of debris
- Special problems and conditions such as sources of inflow, overflows, bypasses and manholes located in natural ponding areas, etc.
- Structural Defects, if any, will be noted

Line Segment Data

- Length, size, material and depth of pipe
- Root growth in pipe, if any
- Depth of flow
- Type and depth of deposition in pipe
- Visible inflow/infiltration sources
- Structural conditions of pipe, including joints
- Special problems and conditions in pipe

An attempt (10 minutes per manhole/cleanout) will be made to locate and open every manhole/cleanout in order for the manhole/cleanout to be counted for payment. Inspection personnel will uncover and expose manholes/cleanouts that are buried one-half inch or less in asphalt and six (6) inches or less in unpaved areas.

The scope quantity will be determined by mutual agreement between the Contractor and the Owner. The compensation for this task will be on a ***"Per Each"*** basis.

Task 5 – Sanitary Sewer Manhole/Cleanout Global Positioning System (GPS) Survey and Mapping

Furnish all manpower and equipment necessary to establish x, y, and z coordinates of located sanitary sewer manholes and cleanouts in the study areas. The center of manhole and cleanout covers will be determined on state plane coordinates (NAD 83) to a horizontal and vertical accuracy of 1 meter. Shots will be tied to known existing control points (survey monuments) in or near the study areas.

Tasks will include:

1. Capture of x-y-z coordinates (NAD 83) through the use of precision GPS equipment for all sanitary sewer manhole/cleanout rims.

2. Procure available GPS coordinate data and monument locations near the project area from the City of Marshall.

3. Establish a layer and manhole/cleanout numbering system as dictated by the city in preparing the digital files for the sewer system. Owner data dictionary and column names will be used.

4. Overlay the updated manhole/cleanout layer from the GPS data source onto the existing manhole/cleanout and line segment layer from the Owner's System Mapping data source.

5. Correct the manhole/cleanout and line segment locations to reflect the updated locations as derived from the GPS and SSES data source.

6. The digital file of GPS data will be delivered in an AutoCAD 14 file or an Arcview shape file and will contain the following data in tabular format:

    a. Asset number of each manhole and cleanout located

    b. x, y, z coordinates in NAD 83

7. Make corrections to the map based on differences found during field survey activities. Provide the corrections to the Owner in both electronic and hard copy format. The depth of all sanitary manholes located on all sewer lines either identified on sewer maps provided by the Owner, or otherwise found in the field will be determined during the SSES manhole /cleanout inspection task. Readings will be taken for all 6-inch and larger diameter sewer lines (no services) entering and exiting the manholes. The depth will be measured using a surveying level rod to determine the flow line elevation of all pipes in the manhole.

    This information together with the GPS shots of the manhole/cleanout lids will provide a database for any future hydraulic modeling activities. The scope quantity will be determined by mutual agreement between the Contractor and the Owner. The compensation for this task will be on a **"Per Each"** asset basis.

Task 6 – Dyed Water Flooding/Leak Quantification and Evaluation

This task consists of pinpointing inflow sources and quantifying selected collection line, manhole and service line leaks that were identified from the results of previous tasks. Quantification estimates are based on field measurements and empirical values developed from past experience. Leak quantification will also be done by use of portable weirs or hydrostatic devices in conjunction with dye water flooding. This information is then used to evaluate

I/I rates and compare to flow monitoring results to determine quantities of I/I. A portion of the dye flooding will be performed in conjunction with the internal (CCTV) inspection.

The scope quantity will be determined by mutual agreement between the Contractor and the Owner. The compensation for this task will be on a ***"Per Each"*** basis.

Section E

BY-PASS PUMPING (Gravity Pipelines)

A. <u>General</u>: The work covered by this section consists of furnishing all labor, supervision, equipment, appliances and materials to perform all operations in connection with by-pass pumping of sewage flow. The Contractor will be required to provide adequate pumping equipment and force main in order to maintain continuous sewage flow. Under no circumstances shall said flow be interrupted or stopped. The location of the pump(s), force main, discharge point, etc., shall be approved by the City.

B. <u>Methods</u>: It shall be the responsibility of the Contractor to make provisions to meet all requirements of these Specifications and to correct any problems which may arise as a result of bypass pumping operations.

The primary purpose of bypass pumping is to provide reliable sewer service to the residents in the construction area. The secondary purpose of bypass pumping is to facilitate the rehabilitation or construction of the manhole within and upstream of the construction area and to prevent the overflow of sewage into the area waterway. Accordingly, if the City is operating and/or maintaining any bypass pumping in the construction area, the City shall remove its pump(s) and force main(s) and the Contractor shall provide the pump(s) and force main(s) necessary to accomplish the two (2) purposes stated above. This shall be done within 24 hours after the Contractor begins work. The Contractor shall be responsible for any and all pumping being done at any and all locations within the project area throughout the length of the project. The project area shall be defined as the area described by a work order. In those instances where the City has bypass pumping in operation at only a few of the locations within the project area, the Contractor will be responsible for that bypass pumping even if he elects to begin his construction/rehabilitation activities at a location where there is no bypass pumping in operation. The Contractor shall be responsible for bypass pumping operations 24 hours per day, 7 days per week throughout the length of the project. The City shall provide an estimate of the present flow in the line as well as an estimate of the size of the pump(s) and force main(s) needed. However, ultimate responsibility is upon the Contractor to ensure his pump(s) and/or force main(s) are adequate to handle the flow at any given time during the project. The Contractor may cease bypass pumping operations only with the approval of the City.

During bypass pumping, no sewage shall be leaked, dumped, or spilled in/on any area outside of the existing sanitary sewer system of the City. In the event sewage is spilled on public or private property, or any damage done to trees, shrubs, or other valuable vegetation, or to the sewer system as a result of the bypass operation, the Contractor shall restore the damaged items to their original condition, or better, at no extra cost to the City.

C. <u>Measurement</u>: The work will be measured by the setup of bypass pumping equipment at each location which was included on a work order issued by the Engineer, and by the actual number of hours bypass pumping occurs.

D. <u>Payment</u>: All work performed and measured as provided under "Measurement" will be paid for at the unit price bid, which price shall be full compensation for bypass pumping as specified under "Methods", and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Section F

POINT REPAIR

A. General: The primary purpose of a "point repair" is to improve the pipe condition for a short length of an existing sewer line which has deteriorated due to misaligned, cracked, crushed, or missing pipe.

No point repair will be done without the Engineer's specific approval and/or direction by a work order. The carrier pipe shall be replaced in all cases unless otherwise directed by the Engineer. Pipe material used for point repairs shall be similar to that replaced or other material as approved by the Engineer.

B. Methods

1. Length of Repair - It is the intent of these specifications to standardize the length of the pipe to be replaced on an individual point repair. Therefore, regardless of the pipe diameter, the standard, or minimum, length of pipe to be replaced on an individual point repair shall be as follows:

* Depth of the Sewer Line	Standard Length of Pipe to be Replaced
0’ - 12'	6'
12'+	10'

*Depth is to be measured from natural ground level to the flow line of the sanitary sewer main at the point of the repair.

In some instances, it may be necessary for an additional length of sanitary sewer main, beyond the above stated "standard length" to be replaced in order to accomplish a proper repair. Accordingly, the Contractor is hereby notified that any length of pipe replaced beyond the above stated "standard length", for a particular depth, shall be considered "Extra Length for Point Repair" and shall be approved by the Engineer.

2. Procedure - The Contractor shall be responsible for the method of excavation (machine, hand or both) used for point repair and said method shall be approved by the Engineer. Said work shall also be performed in a professional manner without any undue interruption or inconvenience to the public.

When a point repair is required within an easement across private property, the Contractor will be responsible for making arrangements with the owner of the property relative to the removal and replacement of trees, plants, and shrubbery, etc. If the property owner has no objections, the Contractor shall remove trees, plants, etc., from the easement or right-of-way to allow him to perform his work. Plants will be set aside and replanted or replaced when work has been completed.

For all point repairs, the Contractor shall be required to provide an acceptable method for establishing a proper grade for the pipe being replaced. It is desirable to disturb the existing bedding as little as possible. Accordingly, if said bedding is disturbed during the point repair procedure, the Contractor shall place cement stabilized sand beneath the new pipe; the minimum compacted thickness being six inches (6").

Prior to replacing the pipe in a point repair, the Contractor shall determine the condition of the pipe on both sides of the point repair by visual inspection and report any defects or deficiencies to the Engineer.

3. Excavation and Backfill - Excavation and backfill shall be the same as those stated on this subject in Item P - "Excavation and Backfill".

C. Measurement: The work will be measured as one (1) unit for each standard length point repair made and by the linear foot for the extra length of point repair made beyond the standard length.

D. Payment: The Contractor shall be paid for each point repair based on both the depth of the main at the location of the repair and the diameter of the sanitary sewer main to be repaired.

All depth measurements will have to exceed the depth range in the bid proposal by at least four (4) inches before the Contractor may claim Payment from the bid item for the next depth range. Tapes, calipers, etc., shall be provided by the Contractor to the Engineer for verification of all measurements.

Payment for "Extra Length Point Repair" shall be made on a PER LINEAR FOOT basis and at the unit price bid for "Extra Length Point Repair". However, said unit price is NOT to exceed the price per foot of a standard point repair of a similar size pipe at the applicable depth.

Payment for "Well Pointing" shall be made on a "PER EACH" basis as approved by the Engineer prior to installation.

When, during the process of a point repair, a service tap reconnection is required, the cost of such reconnection shall be included as incidental to the work.

The unit price for "Point Repair" and, if required, "Extra Length for Point Repair" will be full compensation for all materials, restoration (including, but not limited to, solid sodding), sheeting, fence removals and replacement, incidental labor, and equipment necessary to make these repairs.

END OF SECTION

Section G

SANITARY SEWER MANHOLE REPLACEMENT

A. General

1. Seal Ring and Lid: This includes installation of gasketed pressure equalizing insert in the manhole.

2. Replace Ring and Lid: This includes the removal of damaged or non-watertight rings and covers, and replacement with approved watertight rings and covers.

3. Reconstruct: This includes the required excavation of the existing manhole and the replacement of broken, failed or deteriorated sections with approved manhole materials to provide a watertight manhole.

4. Remove and Replace: This includes the total removal of the existing manhole and the replacement with approved manhole and invert.

5. Extra Depth: When measured from the top of the manhole ring to the invert, any depth exceeding 6 vertical feet.

B. Submittals

1. The Contractor shall submit all materials for Manhole Rehabilitation to the Engineer for approval. The submittal shall include the manufacturer's specifications and installation instructions.

2. Submittals shall include directions for application and descriptive literature on safe storage, handling and disposal of the product and MSDS sheets, if appropriate.

C. Materials for Manhole Rehabilitation: Materials shall be as follows:

1. Manhole Ring and Cover: Replacement of cast iron ring and cover.

   Comply with Illinois Department of Transportation (IDOT) Standard Specifications.

2. Manhole Reconstruction Materials:

   a. Stacked pre-cast concrete joint sections

   b. Cast-in-Place concrete liner; Class A 3000 psi concrete.

3. Manhole Dish Inserts:

   a. Dish:

      (1) Body manufactured of 304 Stainless Steel.

      (2) Not less than 18 gage.

      (3) Shall have a straight side design to allow a loose fit into ring for easy removal. The insert manufacture must furnish a “Load Test Verification” showing a load test failure in excess of 3000 lbs.

b. Gasket:

(1) The gasket shall be manufactured of close cell neoprene, and shall have a pressure sensitive adhesive on one side. The gasket shall be installed by the manufacturer and must be compatible with the insert material to form a long lasting bond in wet or dry conditions.

c. Relief Valve:

(1) The gas relief valve shall be designed to release at a pressure of .5 to 1.5 psi. The valve shall be installed in the insert by means of a hole tapped in the insert by the manufacturer. The valve shall be made of Nitrile for prevention of corrosion from contact with hydrogen sulfide, diluted sulfuric acid and other gases associated with waste-water collection systems.

d. Handle:

(1) The dish shall have a handle of 3/16" plastic coated stainless steel cable installed on the body of the dish. The handle shall be attached with a #6 high grade stainless steel rivet. The cable shall be braided in a manner which resists cutting with common bolt cutters. The cable terminal and eye shall be made of stainless steel.

e. Tether:

(1) Each dish shall have a factory installed five foot long, 3/16" stainless steel cable retaining tether that shall pass through a water tight grommet in the bottom of the dish with a high grade stainless steel adjustable locking device located between the bottom of the dish and lift loop at the top end of tether. The cable shall be braided in a manner which resists cutting with common bolt cutters. The cable terminal and eye end shall be made of stainless Steel.

f. Acceptable Product:

(1) "Rainstopper" manhole insert or approved equal.

3. Manhole Ring Encasement: All manhole rings shall be encased with non-reinforced concrete as shown on the plan details or equal as approved by the Engineer.

a. Concrete for concrete encasement around manholes not in a new or existing street shall conform to IDOT Standard Specifications. Concrete is to be placed to the depth excavated and have a minimum thickness when measured at the manhole ring of one foot (1'). The surface of the encasement shall be four and one-half inches (4-1/2") below the top of the manhole ring.

b. Concrete for concrete encasement around manholes in new or existing streets shall conform to IDOT Standard Specifications, and the minimum dimensions shall be as in manhole ring encasement paragraph 1, except that the top of the concrete shall match the top of the street base course leaving a minimum of one and one-half inches (1-1/2") and a maximum of three inches (3") for replacement of asphalt.

c. In concrete streets, concrete encasement shall be placed to existing street level. Where manholes are constructed in existing streets and where directed by the Engineer or shown on the plans, the exterior exposed surfaces of the ring, mortar, throat rings and manhole surface shall be coated with a one-eighth inch (1/8") minimum thickness of Trowel Mastic No. 710-23 as manufactured by Flintkote, or equal prior to placement of concrete.

D. Installation Procedures

1. Replacement of Manhole Ring and Cover

a. If broken or damaged castings or non-watertight rings and covers are encountered or manhole rings require resetting, the Contractor shall be required to replace defective or non-watertight castings with rings and covers and/or reset manhole rings.

b. Locations shall be recorded and forwarded to the Engineer.

c. New watertight rings and covers shall be supplied by the Contractor.

d. Salvageable Materials: All castings removed shall become the property of the City and shall be turned over to the City as directed.

e. Construction Methods:

(1) Materials shall be removed from around the frame to a depth to expose the entire ring and cover and at least two brick courses or 6" of the top of the manhole corbel and/or grade rings.

(2) If the manhole is located in pavement, the ring and cover removal shall be accomplished by saw cutting the pavement a maximum of 4 feet by 4 feet or as approved by the Engineer.

(3) Removed material shall be disposed of by Contractor in accordance with applicable regulations.

(4) The top of the manhole shall be rebuilt and adjusted as necessary to required elevation.

(5) The new cast iron manhole ring shall be set in full mortar bed.

(6) Manhole ring encasement shall be placed after installation of the watertight ring and cover and after the mortar has set sufficiently.

2. Manhole Removal/Replacement

   a. Comply with IDOT Standard Specifications – Manhole and Inlets.

3. Manhole Dish Insert

   a. Manhole dish insert rim with gasket shall be placed in 360^{o} contact of manhole ring.

   b. Do not force or hammer into place.

4. Manhole Reconstruction

   a. Either stacked pre-cast concrete joint sections (sealed after construction per these Specifications), monolithic poured concrete manholes or cast-in-place concrete liners (minimum 6" thick) will be allowed.

   b. Materials shall be removed from around the existing manhole to the depth of 4" below the existing manhole bench. All existing manhole materials above this point shall be removed. For manholes in paved areas, the Contractor shall saw cut a maximum 7 feet x 7 feet square or as approved by the Engineer.

   c. Contractor will clean and level the remaining bearing surface prior to reconstruction. Manhole shall be made watertight.

   d. The remaining base of existing manhole will be sealed as specified in Manhole Sealing/Waterproofing.

E. Measurement and Payment

1. Removal and Replacement of Manhole

   a. This item will be measured by one unit for each 0 feet to 6 feet manhole removed and replaced for each type; and the item shall be paid for by unit price bid.

   b. Vertical footage of depth will be measured along vertical center lines of manhole from invert to top of manhole cover.

   c. Payment will be based on actual number of manholes installed in the field at locations specified and for any extra manhole depth on a per foot basis.

   d. This item includes, as incidental to work, excavations, removal of existing manhole, dewatering sumps as necessary, precast of cast-in-place concrete foundation, grouting and gasketing joints, adjusting rings, cast iron ring and cover, invert construction, backfilling as required and disposal of excess materials.

   e. Removal and restoration of curbs, gutters, sidewalks, driveways, fences, sodding, pavement and pavement base shall not be paid for as separate items.

   f. Wall sealing required on stacked RCP manholes shall be incidental to the manhole replacement.

2. Reconstruction

   a. This item will be measured by one unit for each 0 foot to 6 foot manhole reconstructed for each type; and this item shall be paid for by unit price bid.

   b. Vertical footage of depth will be measured along vertical centerline of manhole from invert to top of manhole cover.

   c. Payments shall be based on actual number of manholes reconstructed in the field at locations specified.

   d. This item includes, as incidental to work, excavations, removal of existing manhole components (as necessary), dewatering sumps as necessary, grouting and gasketing joints, adjusting rings, cast iron ring and cover, invert and bench, reconstruction, backfilling, testing and disposal of excess material.

   e. Removal and restoration of curbs, gutters, sidewalks, driveways, fences, sodding, pavement, and pavement base shall not be paid for as separate items.

   f. Wall and joint sealing required on stacked RCP manholes shall be incidental to the manhole reconstruction.

3. Extra Depth Manholes

   Extra depth greater than 6 feet in depth will be measured by one unit for each vertical foot greater than 6 feet and this item shall be paid for by unit price bid.

4. Sealing Manhole Ring and Lid

   a. This item will be measured by one unit for each manhole dish insert provided and installed and shall be paid for by unit price bid.

   b. Payment will be based on actual number of dish inserts installed in the field at specified locations.

   c. This item includes, as incidental to work, removing manhole cover, cleaning manhole frame rim, installing insert, and replace existing manhole cover.

4. Replacement of Manhole Ring and Lid

   a. This item will be measured by one unit for each manhole ring and lid replaced and shall be paid for by unit price bid.

   b. This item includes, as incidental to the work, adjustment, concrete encasement, removal and disposal of existing ring and cover, sawcutting and removal and replacement of asphalt.

END OF SECTION

Section H

HDPE Tight Fit Lining System

1.0 INTENT

1.1 It is the intent of this specification to provide for the installation of a polyethylene pipe inside of an existing pipeline by means of an HDPE Tight Liner process. The completed system shall be installed by means of radially compressing a high-density polyethylene pipe and inserting it into a new or existing pipeline. The system shall be continuous between flange connections. The completed liner pipe shall fit with no measurable annular space between the liner pipe and the host pipe.

2.0 DESCRIPTION OF WORK

2.1 Steel Pipe or Other Pipe Material

The Owner will provide the Contractor with the following information, to include host pipe material type, prior to determination of the liner thickness required:

Location
Diameter and Wall
Thickness Length
Internal
Pressure Joint
Type
Fluid
Temperature
Flange Rating

3.0 REFERENCED DOCUMENTS

3.1 This specification references ASTM F-714 (Pipe Standard), ASTM D3350-PE345434C (Cell Classification), ASTM D-1248-Type III, Class C, Category 5, Grade P34 (Pipe Material), PPI Designation PE3408, AWWA C901 (Potable Water if applicable) and NSF - Listed, Standard #14,(by size and order if applicable). The methods, material, and workmanship shall also meet the standards and practices of material supplier and Installing Contractor.

4.0 CONTRACTOR/INSTALLER QUALIFICATIONS

4.1 Only proven Products and Installers will be acceptable for use. The bidding contractor must provide documentation, acceptable to Purchasing Cooperative, showing the Installer's experience with successful completion of projects using the same product intended for use on this contact.

5.0 MATERIALS

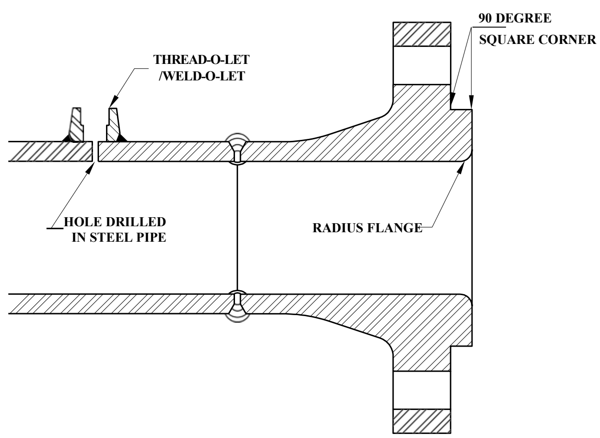
5.1 **Lining Pipe** - The material for pipe lining shall meet the requirements of the above- referenced specifications.

5.1.1 Dimensional tolerances for wall thickness and diameter shall be per ASTM F-714.

5.1.2 The HDPE pipe shall be extruded to a nominal outside diameter recommended by the Installing Contractor to provide the desired fit.

5.1.3 The nominal outside diameter of the lining pipe shall be left to the discretion of the installing contractor but shall not in any case be smaller than the nominal inside diameter of the host pipe.

5.2 **Steel Flanges** - The steel flanges which shall be installed at each end of each lined section shall be ANSI rated, raised-face, weld-neck flanges, suitable for the pressure rating required.



Steel Pipe End and Flange Detail

5.2.1 The steel flanges shall be machined with a radius cut on the inside diameter of the raised face to dimensional tolerances as required by the product manufacturer.

5.3 **Retainer Rings** - The retainer rings shall be made of carbon steel, ASTM A-106 or equivalent.

5.3.1 The retainer rings shall be machined to the size required for the product to allow compression of the HDPE flange fitting without allowing for cold-flow of the flange face under planned operating conditions, or excessive compression during closure.

5.4 **HDPE Flange Fittings** - The polyethylene flange fittings to be installed at each end of each line section shall meet the above-referenced HDPE material specifications and provide fusion compatibility with the liner pipe.

5.4.1 The HDPE flange fittings shall be machined to provide a compression seal at the steel flange connection. Nominal dimensions and dimensional tolerances for face thickness, diameter, and wall thickness shall be according to recommendations by the Installing Contractor.

5.5 **Studs and Nuts** - The studs and nuts for the joining of the steel flanges shall be ASTM A- 193 grade B-7, ASTM A-194 grade 2-H respectively.

5.5.1 Studs shall be extra-length to accommodate the added dimension of the retainer ring.

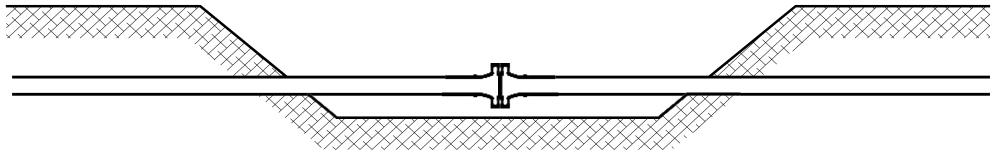
6.0 LINER DESIGN

6.1 The Installing Contractor is responsible for the minimum wall thickness to accommodate installation stresses.

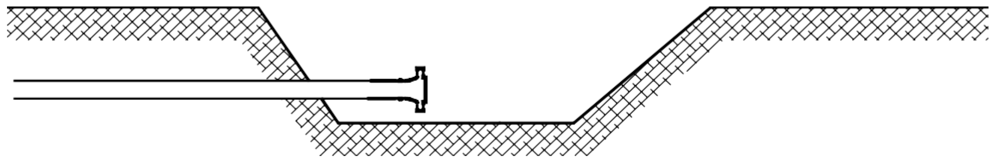
7.0 HOST PIPE AND SITE PREPARATION

7.1 The host pipe and project site shall be furnished, installed and prepared by others unless specifically detailed in another section of these specifications.

7.1.1 **Bell Holes** - Bell holes for access to the host pipe shall be excavated at predetermined intervals according to the attached detail.



Mid-Point Excavation

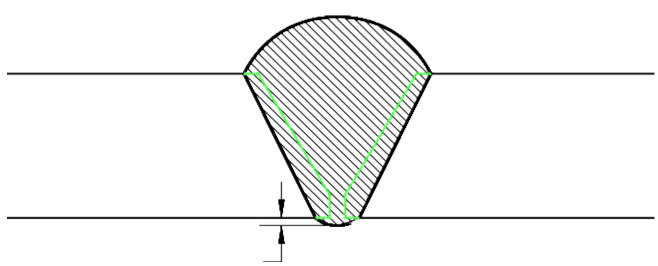


End-Point Excavation

7.1.2 The host pipe shall be cut at the liner section intervals and RFWN steel flanges installed per the above-referenced detail by others.

7.1.3 The host pipe shall have an o-let located on the pipe within six-inches of the RFWN flange. The o-let shall be furnished by the Installing Contractor. A $^{1}/8^{th}$-inch hole shall be drilled through the steel pipe inside of each o-let by the Installing Contractor.

7.1.4 The steel pipeline shall be installed by others. Bead penetration of welded joints shall not exceed $^{1}/16^{th}$-inch as shown.



Steel Pipe Internal Weld Bead

7.1.5 Cleaning necessary to pass the blow-down pig through the line or obstruction removal required for the insertion of the sizing plate is the responsibility of the Installing Contractor. The owner warrants that the system involves no known hazardous waste for which special insurance is required. Waste disposal sites, if required, shall be provided by the owner.

8.0 **TIGHT LINER PROCESS**

8.1.1 A rubber pig (blow-down pig) shall be inserted through the steel line by compressed air in order to insert a wireline.

8.1.2 A sizing plate with a diameter sized smaller than the inside diameter of the steel pipe (determined by the Installing Contractor) will then be pulled through the line to determine the condition of the line. Any obstructions or inclusions, including high weld beads, tight bends, deformed pipe, etc., shall be removed by others so the sizing plate can pass through the entire line segment.

8.1.3 The HDPE liner pipe shall be delivered to the site in fifty-feet lengths (unless coiled) and joined together by fusion welding in accordance with the material manufacturer’s procedures.

8.1.4 The fused sections shall be of sufficient length to completely line each steel pipe section. The liner pipe shall be inserted through a reduction roller box designed and manufactured by United Pipeline Systems which radially compresses the HDPE pipe, or approved equal.

8.1.5 The pulling tension shall be provided by a wireline with capabilities of measuring pulling tension, distance, and wireline speed.

8.1.6 Once the liner pipe is pulled into place inside the existing line, the pulling tension is eased and the liner allowed to expand radially to fit tightly against the inside of the steel pipe. After sufficient time has elapsed to allow the pipe to stabilize, HDPE flange fittings shall be installed on both ends.

9.0 **STEEL PIPE JOINING**

9.1.1 The lined sections of the flanged steel pipe shall be joined by the Installing Contractor.

9.1.2 Installing Contractor shall drill necessary holes in the steel line at the locations of the o-lets prior to liner insertion.

9.1.3 The mating ends of two sections of steel pipe shall be aligned, the retainer ring inserted between the steel flanges, and the connection bolted together.

9.1.4 The installation of risers, valves, and bracing for each monitoring station shall be performed by the Installing Contractor.

10.0 **SLURRY PIPELINE SYSTEMS**

10.1.1 Slurry pipeline systems shall incorporate the United Pipeline Systems Patented Slurry Flange. The Slurry Flange shall be machined from ANSI Raised Face Weld Neck Flanges from United Pipeline Systems drawings.

10.1.2 All Tight Liner fusion joints shall have the internal fusion beads removed.

11.0 **TESTING**

11.1.1 Any pressure test on the steel pipe or the completed system is not a part of this scope of work and shall be performed by others. Testing of the flow introduced in the lined pipe shall be visually observed by the monitor o-lets.

12.0 **SITE CLEAN-UP**

12.1.1 Upon acceptance of the installation, work, and testing, the contractor shall restore the project area affected by its operation.

13.0 **PAYMENT**

13.1.1 Payment for the work included in this section will be in accordance with the payment schedule in the proposal.

Section I

INTERNAL REHABILITATION OF PRESSURE PIPE USING FIBER REINFORCED POLYMERS

1. GENERAL

Description of Work

1. This specification is intended to define the minimum requirements of structural strengthening using internally bonded glass fiber reinforced polymer (GFRP) and carbon fiber reinforced polymer (CFRP) composite systems.
2. The work includes the furnishing of all materials, labor, equipment and services for the supply, installation and finish of all structural strengthening using internally bonded GFRP/CFRP composite system.

Work Included

1. This Section of the Specification is not necessarily complete in itself. Read in conjunction with the Contract Document.

Reference Standards

General

The publications listed below form a part of this specification to the extent referenced. Where a date is given for referenced standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of the Notice of Invitation to Bid shall be used.

International Code Council (ICC)

.1 ICC AC125, Acceptance Criteria for Concrete and Reinforced and Unreinforced Masonry Strengthening Using Externally Bonded Fiber Reinforced Polymer (FRP) Composite Systems.

.2 ICC-ESR-2103, Acceptance Criteria for Concrete and Masonry Strengthening using the Tyfo☐ Fibrwrap☐ Fiber-Reinforced Composite Systems.

American Standard for Testing and Materials (ASTM)

.3 ASTM D7565, Standard Test Method for Determining Tensile Properties of Fiber Reinforced Polymer Matrix Composites Used for Strengthening of Civil Structures.

.4 ASTM D4541, Standard Test Method for Pull-off Strength of Coating Using Portable Adhesive-Testers.

.5 ASTM D7290, Standard Practice for Evaluating Material Property Characteristic Values for Polymetric Composites for Civil Engineering Structural Applications.

MATERIAL QUALIFICATIONS

1. Materials for the GFRP/CFRP system have been pre-qualified and shall be supplied by the following manufacturers:
   A. Fyfe Co. LLC (3940 Ruffin Road Suite C San Diego, CA 92123. Tel: 858-642- 0694, Fax: 858-444-2982, Email: info@fyfeco.com)
   B. Approved alternate GFRP manufacturer. Alternate GFRP systems must provide all items listed in Section 1.5 of this specification with their bid; otherwise, they shall be considered non-compliant.

Submittals prior to installation

Certified Applicator Information:

1. Surface bonded GFRP/CFRP composite system shall be installed by Contractor with written consent from manufacturer that the Contractor has been trained. Contractor shall have a minimum of 10 years of experience in performing GFRP/CFRP composite retrofits.
2. Written verification from the manufacturer that the Contractor has received the required certifications and training.
3. The Contractor shall have written documentation with client contact information showing successful installation of the proposed rehabilitation system on a minimum of twenty-five (25) independent internal pipe rehabilitation projects for 36-inch diameter or greater pipes that were designed as a stand-alone system within the past three years.
4. The Contractor shall provide names of the applicator's key personnel (superintendent, assistant and five lead technicians) who will perform the actual work for the Owner. The superintendent, assistant and five lead technicians shall have a minimum two years of experience with a minimum of five (5) pipe rehabilitation projects for 36-inch diameter or greater concrete pressure pipes that were designed as a stand-alone system for a minimum total internal pressure of 150 psi.
5. The Contractor shall provide an access and ventilation plan including confined space certification for all employees.
6. The Contractor shall provide a one-year warranty for the work performed under this task order from the date that all of the work is accepted by the Engineer against all faulty or imperfect materials and against all imperfect, careless, and/or unskilled workmanship. The warranty shall cover materials and labor for repair of the defects stated in section 3.8.
7. The Contractor shall provide a written confirmation that they are willing and able to provide a 1-year bonded warranty for the proposed rehabilitation system as outlined further in this Specification.

Design and working drawings:

8. Stamped and signed structural calculations and drawings by a professional Civil or Structural Engineer. Design shall be based on the clearly written performance criteria defined on the structural drawings and consistent with AWWA C305 code requirements and assumptions.

9. Working drawings shall detail the type, locations, dimensions, numbers of layers, and orientation of all GFRP/CFRP materials and coatings to be installed.

10. A list of two different manufacturer approved testing laboratories that can perform the required ASTM D7565 and/or ASTM D3039 tests.

Product/Manufacturer Information:

11. Manufacturer's product data sheet indicating physical, mechanical and chemical characteristics of all materials used in the GFRP/CFRP system. Also, test reports shall be provided with the mechanical properties of the GFRP/CFRP system listed in Table 1, durability of the GFRP laminated based on the environmental conditions in Table 2, and physical properties of the resin listed in Table 3. Reported properties shall be based on the listed standards and the number of tests required in these tables.

Table 1: Mechanical Property Tests Required for the GFRP/CFRP System

Material Property	ASTM Test Method	Min. No of Tests
Tensile strength and modulus	D3039	30
Flexural strength and modulus	D790	10
Overlap splice shear strength	D7616	10

Table 2: Minimum Environmental Durability Tests Required for the GFRP/CFRP System

Environmental Durability Test	ASTM Test Method	Test Condition	Test Duration (hrs.)	Req. % Retention of Tension Properties per ASTM D3039
Water and Temperature Resistance	D2247	100% RH at max 125°F	1,000	90
			3,000	85
			10,000	80
Salt Water Resistance	D1141	Immersion at max 125°F	1,000	90
			3,000	85
			10,000	80

Table 3: Physical Property Tests Required for the Saturating Resin

Material Property	ASTM Test Method	Min. No of Tests
Glass Transition Temperature	D4065	5
Water Absorption	D570, Sec. 7.4	5
Longitudinal Coefficient of Thermal Expansion	D696	5
Transverse Coefficient of Thermal Expansion	D696	5

12. Manufacturer's Material Safety Data Sheets (MSDS) for all materials to be used.

13. Only two part 100% solids, ambient cure epoxy resin systems shall be permitted. No polyester or vinyl ester resins will be accepted as alternates to an epoxy resin. Also, the method of application of the glass fiber system shall be the wet layup method only. Procured laminates or the dry layup method shall not be permitted.

14. Submit defect criticality testing that defines the structural significance of various anomalies that can occur using the hand layup process (e.g., voids, blisters, fiber misalignment). See section 3.8 of this specification.

15. Installation procedures, maintenance instructions, and general recommendations regarding each material to be used.

16. Certification by the manufacturer that supplied products complies with local regulations controlling use of volatile organic compounds (VOC's).

17. Products that require the use of respirators do not comply with local regulations controlling use of VOC's and shall not be allowed.

18. NSF Certification for the proposed composite system is required when any part of the system may come in contact with the potable water being transported by the pipeline. A printout from the NSF website dated within one week of the request for submittals showing the current and valid certification of the proposed system's NSF approval shall be submitted.

19. Provide a third party testing report stating the FRP systems may be used to provide localized patch repairs on small steel cylinder holes in-lieu of welding. The test shall prove that FRP materials can withstand 50 psi minimum of pore water pressure for 7 days minimum on a minimum of five (5) test specimens with no observed leaking or rupturing.

20. Written and notarized certification that the Contractor has authority to use intended methods without infringing on U.S. patents related to this scope of work.

Design Engineer Information:

21. Written documentation with client contact information showing successful design of the proposed rehabilitation system on a minimum of ten (10) independent internal pipe rehabilitation projects for 36-inch diameter or greater pressure pipes that were designed as a stand-alone system within the past three years.

Design Requirements

The pipe rehabilitation system shall be designed to resist loads from earth pressure, live loads, and internal pressure based on procedures of AWWA C305 design guideline. The design shall be based on the maximum of the forces resulting from different load combinations and the design shall be based on a minimum 50-year design life assumption. The design parameters listed below are applicable for the rehabilitation of all proposed pipeline sections and the Owner shall provide on per project basis. The design of the proposed rehabilitation system shall be based on the following parameters:

Internal diameter (inch)	X in.
Internal working pressure (psi)	X psi
Internal working plus transient pressure (psi)	X psi
Soil cover height (above invert) (feet)	X ft.
Height of ground water below the ground surface (feet)	X ft.
Live loads (equivalent to HS20 truck)	X
Temperature change of ΔT	± X °F
Bends	X

The pipeline rehabilitation system shall be designed as a stand-alone system in resisting pressure and bending. The design shall include factors of safety that are selected for long-term loads, short-term loads, and buckling based on established procedures.

APPLICATION

Examination

1. Examine substrates, areas, and conditions under which structural epoxy-resin fabric composite systems will be applied (with installer present) for compliance with requirements. Do not proceed with installation until unsatisfactory conditions have been corrected.

2. The Contractor shall examine the existing conditions to identify potential obstructions and constraints; shall verify dimensions, geometry and manhole locations; and shall map all visible voids and cracks in the concrete core.

3. Voids in the concrete core greater than 0.50 inches in depth must be filled with an epoxy repair grout.

Surface Preparation

1. Surface preparation of the GFRP/CFRP system will be per Manufacturer's recommendation and consistent with their Quality Control/Quality Assurance Manual.

Environmental Conditions

1. The installation of a GFRP/CFRP system requires temperature and moisture control. In conditions with an ambient air temperature less than 50☐ F, auxiliary clean heat sources may be used to raise the ambient temperature to a desired level.

2. The presence of moisture inhibits the adhesion of epoxies to concrete surfaces. Portable barriers and blowers shall be erected at the repair locations to dehumidify the concrete surface in the pipe. The environment shall be maintained to meet the recommendation of the project manufacturer, or 65☐F minimum. Surface moisture shall not exceed that used for surface bonding qualifications and no more than 10☐ F above dew point.

3. If water leakage exists through cracks or joints, water flow must be stopped prior to installation. The Contractor shall be responsible for maintaining dry conditions. However, operation of all valves shall be by the Owner or under the direction thereof.

4. Proper dust control and ventilation shall be provided to meet OSHA requirements.

5. The work area is a confined space that will require an entry permit in accordance with OSHA regulations. The Contractor is responsible for the training of all personnel, air testing, safety equipment and complying with the requirements of OSHA.

6. After GFRP/CFRP system installation, the Contractor, shall heat the pipe to the highest attainable temperature, 80 ☐F minimum for a minimum of 24 hours to achieve proper material cure (85% cure minimum).

7. Epoxy resins (including primers) shall be mixed according to the GFRP/CFRP system manufacturer's installation instructions.

8. Mixed epoxy resins that exceed the pot life specified by the manufacturer shall not be used.

Installation

1. Installation of the GFRP/CFRP system will be per Manufacturer's recommendation and consistent with their Quality Control/Quality Assurance Manual.

Inspection and Testing

1. In-situ Testing

ASTM D7522 and/or ASTM D4541 – Adhesion Tests (if required by engineer-of-record)

A. Direct tension adhesion testing of cored samples shall be conducted using the method described by ASTM D7522 and/or ASTM D4541. The CONTRACTOR shall install one layer of GFRP/CFRP in at least one 2ft by 2ft area to be used as mock-ups of the installed GFRP/CFRP system in accordance with ASTM D4541. The location shall be representative and selected by the engineer and may be on adjacent non-repair pipe provided that surface preparation is the same as that to be used for the repair pipe. Mock-up shall be prepared on each type of concrete substrate or for each surface preparation technique used if variations in such conditions exist.

B. The Contractor shall perform at least three pull-off tests in the mockup area in the presence of the inspector according to ASTM D4541 and using testers with documented calibration. The CONTRACTOR shall take precautions to ensure proper alignment and shimming of the test fixture to prevent non-perpendicular forces on the test specimen which can produce low bond strength results.

C. The prepared surface of the bonded GFRP/CFRP system shall be allowed to cure a minimum of 72 hours before execution of the direct tension pull-off test.

2. Laboratory

Testing Sampling

1. Record lot number of fabric and epoxy resin used, and location of installation. Measure square footage of fabric and volume of epoxy used each day. Label each sample from each day's production.

2. A "sample batch" shall consist of two 12" by 12" sample panels of cured composite. A minimum of two "sample batches" shall be made daily. The two "sample batches" will be taken at appropriate times during the day as to ensure the maximum material deviance in the components of the GFRP/CFRP composite as accepted by ICC AC 178.

3. Preparation of Samples

A. Prepare sample on a smooth, flat, level surface covered with polyethylene sheeting, or 16 mil plastic film, prime with epoxy resin. Then place one-layer of saturated fabric and apply additional topping of epoxy. Cover with plastic film and squeegee out all bubbles.

B. Samples shall be stored in a sample box and not moved for a minimum 48 hours after casting. The prepared, identified samples shall be given to a pre-approved and experienced testing agency. The testing agency shall be a qualified testing laboratory that is independent from the installer, capable of performing tests according to the ASTM standards. The laboratory shall then precondition samples for 48 hours at 140°F before testing.

4. ASTM D7565 and/or ASTM D3039 – Tension Tests

   A. Test a minimum of 15% of all samples as per ICC AC178. If one coupon fails, specimens from the same 12" x 12" sample will be tested. If these specimens also fail, the other 12" x 12" sample from the same "sample batch" will be tested. In the extreme case that this sample also fails, the remaining "sample batch" for that day will be tested and appropriate remediation shall be taken to ensure integrity of the system at locations from the failed "sample batch". In addition, 15% of the remaining samples shall be tested by the same criteria as per ICC AC178.

   B. GFRP/CFRP design values must be lower than the calculated mean determined from the test results received from the ASTM D7565 and/or ASTM D3039 field test specimens. Acceptable minimum values for ultimate tensile strength, tensile modulus, and elongation shall not be below the submitted design values. Any values below the submitted design values will require remediation.

Curing

1. All GFRP/CFRP areas shall be cured using the curing schedule recommended by the Manufacturer in writing and approved by the Engineer prior to Construction.
2. The Installer's work schedule shall allow sufficient time between completion of repairs and refilling of the pipeline so that all GFRP/CFRP completes at least 85% cure before being exposed to water based on the cure temperature versus time relationship provided by the Manufacturer, unless adequacy of lesser percent cure is proven by test data. The Engineer shall reject the work schedule is sufficient for curing in not provided.
3. The Engineer may specify a revised curing schedule during construction, if needed, based on the cure progress reported by the inspector.
4. Curing shall take place in a dry environment to prevent amine blush. If heating is used, direct-fired gas or kerosene "salamander" type heater shall not be permitted. Only electric or indirect-fired heaters shall be permitted.
5. Curing at elevated temperatures is strongly encouraged. This not only minimizes the risk of amine blush but reduces the required curing time and increases the glass transition temperature of the epoxy. Satisfactory performance of the curing schedules used shall be proven by the Manufacturer with documentation of pervious satisfactory applications or thermal test results indicating the curing behavior of the epoxy.

6. Exhaust fumes from vehicles or equipment shall be kept away from GFRP/CFRP applied areas during curing.

REQUIRED REMEDIATION

1. Required remediation of the GFRP/CFRP system will be per Manufacturer's recommendation and consistent with their Quality Control/Quality Assurance Manual.

Make Good

1. Make good at no cost to the Owner, any damage to the new or existing structures, property or services caused by the installation and testing of the GFRP/CFRP composite.

PAYMENT

1. Payment for the work included in this section shall be in accordance with the prices set forth in the proposal for the quantity of work performed.

END

Section J

Cured-In-Place Pipe Reconstruction of Potable Water Pressure Pipes

1. INTENT

It is the intent of this specification to provide for the reconstruction of the designated pressure pipe by installation of a new cured-in-place-pipe (CIPP) within the existing (host) pipe. Due to the condition of the host pipe the new CIPP shall be designed as a fully structural pipe, not relying on the remaining strength of the host pipe to withstand long-term external loading and internal pressure.

As the piping system is intended for the conveyance of potable water, the proposed product shall be certified as complying with the requirements of ANSI/NSF Standard 61.

2. REFERENCED DOCUMENTS

This specification references ASTM F1216 and ASTM F1743 which is made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and the ASTM standards, this specification will govern.

3. PRODUCT, MANUFACTURER/INSTALLER QUALIFICATION REQUIREMENTS

3.1 All trenchless rehabilitation products and installers must meet minimum qualifying standards in order to be considered approved to submit a bid for this contract. Each proposer shall submit the Contractor Qualification Form and a Statement of Qualifications as required and must meet the prequalification requirements designated in Section 3.2.

3.2 The Bidding Contractor must meet the following:

3.2.1 To be Commercially Proven, an Installer must satisfy all insurance, financial, and bonding requirements of the Owner, and must have had at least 5 (five) years active experience and a minimum of 10,000 linear feet of commercial installation of pressure rated CIPP products in pressure pipe applications. Acceptable documentation supporting the above must be submitted to the DuPage County Local Government Purchasing Cooperative.

3.2.2 Both the CIPP tube manufacturer and lining installer shall operate under a quality management system which is third-party certified to ISO 9000 or other internationally recognized organization standards. Proof of certification shall be required for approval.

3.2.3 Design - Detailed design calculations for both the internal and external loading parameters specified in Section 5 shall be submitted for review and approval. The CIPP shall be designed as per ASTM F1216, Appendix X1.3.2 for the Fully Deteriorated Pressure Pipe condition and shall follow the requirements specified in Section 5.

3.2.4 Temporary Water Systems – The Contractor shall submit a plan for providing temporary water service for the lining work. The plan shall describe size, material, and location of temporary mains to be laid. It shall also describe the source of water supply for each temporary main and the technique used to provide water service to each residence. The plan shall include documentation confirming that materials selected for temporary service complies with ANSI/NSF Standard 61.

4. MATERIALS

4.1 The CIPP product shall consist of one or more layers of absorbent woven and/or non- woven synthetic fiber, with or without glass fiber reinforcement, which is impregnated with an epoxy resin system that is compatible with the installation process being used.

4.2. The tube shall be fabricated to dimensions such that when installed will fit tightly to the internal circumference of the host pipe being lined, making allowance for stretching during installation.

4.3 In the installed state, the inside layer of the tube shall be coated with a translucent, flexible plastic material that acts to separate the curing heat medium from the thermoset resin system undergoing cure.

4.4 The tube shall have a uniform thickness that when compressed at installation pressures will meet or exceed the minimum required thickness specified in the design submittals (see Section 3.2.3).

4.5. Fabricate tube from materials which, when cured, will be chemically resistant to internal exposure to drinking water treated with common chemical additives.

4.6 The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. The tube shall contain reinforcement (glass, woven fiber, or equal) in order to withstand the internal pressure design requirements.

4.7 The wall color of the interior pipe surface of the CIPP after installation shall be a light reflective color so that a clear detail examination may be made of the final product.

4.8 Materials that are defective, damaged or otherwise deemed unacceptable for use prior to installation shall be rejected and replaced at Contractor's expense.

Liner materials damaged during installation shall be repaired or replaced as recommended by the Contractor and approved by the Cooperative Member.

5. STRUCTURAL REQUIREMENTS

5.1 The CIPP shall be designed as per ASTM F1216, Appendix X1.3.2 for the Fully Deteriorated Pressure Pipe condition, and shall be provided as a prequalification submittal (see Section 3.2.3). These detailed calculations shall provide the input data as well as the actual calculation for Eqs X1.1, X1.3, X1.4 and X1.7 of Appendix X1. of ASTM F1216. The design submittal shall also clearly identify the physical properties used for design.

5.2 Other than what is allowed in ASTM F1216, the CIPP design shall assume no contribution from the original host pipe.

5.3 The design of the CIPP shall be based on the following parameters, which shall be determined by the contractor after a site evaluation, or specified by the Cooperative Member:

Diameter	_____________, inch
Internal Design Pressure	_____________, psi
Internal Vacuum, if applicable	_____________, psi
Soil Depth (above invert)	_____________, feet
Ground Water Depth (above invert)	_____________, feet
Type of Live Load	_____________
Modulus of Soil Reaction	_____________, psi
Soil Density	_____________, psi

5.4 The physical properties used in the design submittal (see Section 3.2.3) shall be clearly identified. At a minimum, the CIPP shall have the following physical properties:

PROPERTY	ASTM TEST METHOD	MINIMUM VALUE*
Initial Flexural Modulus of Elasticity	D790	300,000 psi
Initial Flexural Strength	D790	7,000 psi
Initial Tensile Strength	D638**	6,500 psi

*Values are for design conditions @ 75°F (25°C)

** For materials that do not allow sufficiently accurate hoop/weft testing per ASTM D638, initial tensile strength may also be substantiated by short-term burst testing results.

6. INSTALLATION

6.1 Project Planning

6.1.1 The Owner shall ensure access to the existing water mains. The Contractor shall provide adequate notice to the Owner prior to mobilization. The Owner will notify customers and local fire department following receipt of the Contractor’s notice.

6.1.2 The Owner will operate all water main valves, curb stops, and fire hydrants. The Contractor will provide to the Owner a specific time and date when the individual water services will be transferred from the water main to the temporary bypass piping system.

6.1.3 Water necessary for cleaning, disinfection, and flushing will be available, at no cost, from locations (fire hydrants) indicated by the Owner prior to the start of Work. Water source provided shall be in close proximity to lines being worked on. The Contractor shall provide necessary piping or flexible hoses, fittings, and approved reduced pressure zone backflow prevention device for connection between fire hydrant and end of pipe section where water is required. The Owner shall provide a location at no cost to the Contractor (e.g., sanitary sewer, etc.) for proper disposal of water after use.

6.2 Bypassing

As required, water service shall be maintained thru the use of a temporary bypass system during the pipeline renovation process. The bypass mains shall be sized to meet customer demand but in no case less than 2 inch diameter. All service lines shall be a minimum of ¾” in diameter The Contractor shall perform visual checks for leakage and repair as necessary. The temporary water system will be disinfected and tested before being placed into service.

6.3 Access, Cleaning and Inspection

6.3.1 Prior to entering any permit required confined space the Contractor shall make an evaluation of the atmosphere to determine the presence of toxic or flammable vapors or lack of oxygen. This shall be undertaken in accordance with local, state, or federal safety regulations.

6.3.2 The Contractor shall identify the number and location of access points required. The Owner shall provide rights of access to the pipeline. The Contractor or Owner, as agreed upon during the proposal phase, shall provide the excavation, pipe work, reconnection and restoration for access points.

6.3.3 Immediately upon opening the host main at the access points and prior to installation of liner, the ends of the adjacent existing water main that are not to be lined at the insertion/extraction points shall be covered/plugged by the Contractor so that no debris shall enter into them during reconstruction work.

6.3.4 The Contractor shall remove all internal debris out of the pipeline that will interfere with the installation. Pipes shall be cleaned by the Contractor, as needed, with high-velocity jet cleaners, mechanically powered equipment, cable-attached devices or fluid-propelled devices (e.g., pipe pigs). If required, the Owner shall provide a dump site for all debris removed from the pipe during the cleaning operation. Unless specified otherwise, this site shall be at or near the project site. Any hazardous waste material encountered during this project shall be considered as a changed condition.

6.3.5 Verification of readiness to install liner shall be performed by experienced personnel trained in locating services, breaks, obstacles, etc., This may include pipe mandrels or other devices up to and including closed-circuit television or man entry. The interior of the pipeline shall be carefully inspected to determine the location of any conditions that may prevent proper installation of the impregnated tube. A video tape or suitable log shall be kept for reference. It will be the Owner’s responsibility to remove any unforeseen obstructions that may prevent liner installation. Owner may direct Contractor to remove these obstructions and reimburse utilizing line items in the contract.

6.3.6 Any external water leaking back into the existing pipeline shall be kept to a minimum so as not to interfere with the proper installation and cure of the CIPP liner

6.3.7 The Contractor shall field verify the length of water main sections to be cleaned and lined.

6.3.8 The Contractor shall isolate or remove any air release valves from water main section prior to liner installation.

6.3.9 The Contractor shall flush the host pipe with clean water to remove any loose debris from the pipe surface. Where ever practical remove all standing water from the inside surfaces of the cleaned water main by passing a sufficient number of oversized foam swabs through the main or us a progressive expansion method to remove standing water.

6.3.10 The Contractor shall remove and dispose of any waste or debris generated by the cleaning operation to a site furnished by the Owner.

6.4 Television Inspection

When required the Contractor shall perform closed circuit television inspection of existing water mains at two intervals: prior to water main lining and upon completion of the lining process. The Contractor shall provide the Owner with a complete set of all DVDs. The picture quality and definition shall be acceptable for viewing and the DVDs shall be compatible with standard DVD equipment. Information on the DVD shall identify the water main section, direction of taping, and the date of inspection. Where applicable, the DVDs shall include voice description of the location of any identified defects.

6.5 Resin Impregnation

6.5.1 The tube shall be impregnated (wet out) with resin under controlled conditions. The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and loss of resin through cracks and irregularities in the original pipe wall.

6.5.2 The Contractor shall allow the Owner to inspect the materials and procedures used to impregnate the tube.

6.6 Installation

6.6.1 The wet out tube shall be inserted through an approved access point by means of a pull-in place method or a direct inversion process, or a combination of the two. The head used to extend the liner tube though the length of pipe being rehabilitated shall be sufficient enough to fully extend the tube both circumferentially and longitudinally.

6.6.2 Before the installation begins, the Contractor shall determine the minimum pressure required to hold the tube tight against the existing pipeline, and the maximum allowable pressure so as not to damage the tube. In order to ensure a proper fit of the CIPP tube to the host pipe, the pressure shall be maintained between the minimum and maximum pressures until the installation has been completed.

6.6.3 The use of a lubricant during the installation process may be needed to reduce friction. The lubricant used shall be a nontoxic, FDA or NSF certified product.

6.7 Curing

6.7.1 After installation is completed, a suitable heat source and related equipment shall be used to circulate heated water or injected steam throughout the pipeline. The equipment shall be capable of delivering hot water or steam throughout the pipeline to uniformly raise the temperature above the temperature required to affect a cure of the resin. Water or steam temperature in the line during the cure period shall be as determined by the Contractor.

6.7.2 The heat source shall be fitted with suitable monitors to gauge the temperature of the hot water or steam supply. To determine the temperatures during the cure cycle, a gauge shall be placed at the beginning and termination points of the section being lined. The temperature sensing device shall be placed between the impregnated tube and the invert of the existing pipe.

6.7.3 Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appear to be hard and sound and the remote temperature sensor indicates that the temperature is of a magnitude to realize an exotherm or cure in the resin. After initial cure is reached, the temperature shall be held at the post-cure temperature for a period as determined by the Contractor. The curing process shall take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil).

6.8 Cool-Down

Cool-down shall be accomplished by the introduction of cool water to replace water being drained from the system or by the introduction of air to replace the steam used in a steam cure. Care shall be taken in the release of the internal head so that a vacuum will not be developed which could damage the newly installed CIPP.

7. INSPECTION AND TESTING

7.1 After liner has been cooled down and before opening the service laterals, a preliminary television inspection of the newly installed liner may be performed to determine that the liner is properly installed.

7.2 The finished lining shall be continuous over the entire length and be free from visual defects such as foreign inclusions, dry spots, lifts, pinholes and delaminations. The lining shall be impervious and free of any leakage from the pipe to the surrounding ground or from the ground to the inside of the lined pipe.

8. PRESSURE TESTING FOR WATER-TIGHTNESS

8.1 Pressure testing for water-tightness shall be provided on all CIPP sections identified by the Owner in the contract documents or purchase order, and shall be completed after inspection but before the reinstatement of service connections.

8.2. Perform hydrostatic pressure test on the lined water main, following the guidelines of ASTM F1216, Section 8.3. The test section shall be subjected to a hydrostatic pressure of no more than 1-1/2 times the operating pressure of the rehabilitated line segment.

8.3. As noted in ASTM F1216, the allowable leakage during the pressure test shall be 20 U.S. gallons per inch of internal pipe diameter per mile of pipe per day (GIDMD), providing that all the air has been evacuated from the line prior to testing and the structural pipe lining system has cooled down to ambient temperature.

8.4 After the one hour test, the quantified make up water shall be extrapolated to the 24- hour rate for comparison purposes. Any visible leakage at termination points shall be eliminated. If not feasible or possible at the time of the test, the termination point leakage shall be kept to a minimum, collected and then deducted from the actual make up water rate. If the loss at test pressure exceeds the allowable, the Contractor shall endeavor to identify the source of the loss and minimize it in a manner acceptable to the Owner. Trapped air can significantly affect internal pressure and may require extensive continued testing until stabilization occurs. The pressure test for water tightness shall be deemed acceptable if that actually measured during the one-hour test (which has been extrapolated to a 24-hour day rate) is equal to or less than the allowable make up water rate of 20 GIDMD.

9. SERVICE CONNECTIONS

9.1 Prior to installation of the liner, the Contractor shall locate all existing service connection and plug or prepare the corporation valve connections as recommended by the manufacturer. All plugs shall be sized for the respective water taps. The service plugs used in this process shall be able to withstand the temperatures expected during the cure of the CIPP.

9.2 After the lining is complete, reconnect existing services from the interior of the water main using a television camera directed robotic cutting device that removes a small, circular section of the liner to expose the corporation valve opening. A water-tight seal is provided by direct resin-to-host pipe adhesion.

9.3 Reconnections shall be free of burrs, frayed edges, and other restrictions preventing free water flow, and shall be opened to the size of their original diameter and to a depth required to completely open the water service connection to the residence served.

10. WATER MAIN RECONNECTION AND CLEAN-UP

10.1 After project completion, the Owner or Contractor, as specified by contract documents, shall return the piping system to service by closure of all access pits with appropriate pipe spools, valves, and other relevant pipe fittings

10.2 Upon acceptance of the installation, the Contractor or Owner, as agreed upon during the proposal phase, shall reinstate, the project area affected by the operations.

Cured-in-Place Pipe Reconstruction of Non-Potable Pressure Pipes

1 INTENT

It is the intent of this specification to provide for the reconstruction of the designated pressure pipe by inversion and curing a new cured-in-place-pipe (CIPP) within the existing (host) pipe. Due to the unstable condition of the host pipe the new CIPP shall be designed as a fully structural pipe, not relying on the remaining strength of the host pipe to withstand long-term external loading and internal pressure.

2 REFERENCED DOCUMENTS

2.1 This specification references ASTM F1216, which is made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and F1216, this specification will govern.

3 QUALIFICATION

3.1 Only proven Products and Installers will be acceptable for use. The bidding contractor must provide documentation, acceptable to Purchasing Cooperative, showing the Installer's experience with successful completion of projects using the same product intended for use on this contact.

3.2 The requirements:

3.2.1 Design - Detailed design calculations for both the internal and external loading parameters specified in Section 5. shall be submitted for review and approval by the Owner. The CIPP shall be designed as per ASTM F1216, Appendix X1.3.2 for the Fully Deteriorated Pressure Pipe condition and shall follow the requirements specified in Section 5. These detailed calculations shall provide the input data as well as the actual calculation for Eqs X1.1, X1.3, X1.4 and X1.7 of Appendix X1. of ASTM F1216. The design submittal shall also clearly identify the physical properties used for design. These physical properties shall be the basis for acceptance of prequalification submittals of previous field samples (see Section 3.2.7) and acceptance of the final product (see Section 8.5).

3.2.2 References - Installation references of at least four pressure projects that are similar in size and scope to this project shall be submitted. The submittal shall include, at a minimum, the client contact name, phone number, and the diameter and footage of pipe rehabilitated.

3.2.3 Chemical Resistance - The contractor shall submit test results which indicates that the CIPP system proposed meets the chemical resistance requirements of Section 9.

3.2.4 CIPP Field Samples - The Contractor shall submit physical property test results from five previous installations of the product proposed for this project. These test results shall indicate that the CIPP physical properties used in the design submittal (see section 3.2.4, as well as minimum values specified in Section 5.4), have been achieved in previous applications.

3.2.5 Reinstatements - The Contractor shall submit details of how existing tees, air relief valves, blow-off valves, threaded taps, etc., will be reinstated. Reinstatements shall provide a sufficient seal (e.g., see Section 7.) to prevent water tracking between the CIPP and the host pipe.

3.2.6 Access Points - The number and location of access points required for installation of the CIPP shall be provided.

4 MATERIALS

4.1 Tube - The sewn tube shall consist of two or more layers of absorbent non-woven synthetic fiber combined with glass fiber reinforcement. The tube shall be fabricated to dimensions such that it will stretch to a size that when installed will cure while in contact with the existing pipe.

4.2 The outside layer of the tube shall be plastic coated with a translucent flexible material that clearly allows inspection of the resin impregnation (wet out) procedure.

4.3 The tube shall have a uniform thickness that when compressed at installation pressures will exceed the minimum required thickness specified in the design submittals (see Section 3.2.4).

4.4 The tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. The tube shall contain glass fiber reinforcement quantities appropriate for the internal pressure requirements.

4.5 The wall color of the interior pipe surface of the CIPP after installation shall be a light reflective color so that a clear detail examination may be made of the final product with closed circuit television inspection equipment or by man-entry.

4.6 A vinyl ester resin system that is compatible with the inversion process shall be used.

5 STRUCTURAL REQUIREMENTS

5.1 The CIPP shall be designed as per ASTM F1216, Appendix X1.3.2 for the Fully Deteriorated Pressure Pipe condition, and shall be provided as a submittal (see Section 3.2.1). These detailed calculations shall provide the input data as well as the actual calculation for Eqs X1.1, X1.3, X1.4 and X1.7 of Appendix X1. of ASTM F1216. The design submittal shall also clearly identify the physical properties used for design.

5.3 The CIPP design shall assume no bonding to the original pipe wall.

5.3 The design of the CIPP shall be based on the following parameters to be provided by the Owner:

Diameter	______________, inch
Internal Design Pressure	______________, psi
Normal Internal Operating Temperature (Design)	___________________, °F
Maximum Internal Temperature	______________, °F
Internal Vacuum, if applicable	______________, psi
Soil Depth (above invert)	______________, feet
Ground Water Depth (above invert)	______________, feet
Type of Live Load	______________
Modulus of Soil Reaction	______________, psi
Soil Density	______________, psi

5.4 The physical properties used in the design submittal (see Section 3.2.1) shall be clearly identified. These physical properties shall be the basis for the acceptance of submittals of previous field samples (see Section 3.2.4) and the acceptance of the final product (see Section 8.5). At a minimum, the CIPP shall have the following physical properties:

PROPERTY	ASTM TEST METHOD	MINIMUM VALUE*
Initial Flexural Modulus of Elasticity	D790	350,000 psi
Initial Flexural Strength	D790	7,000 psi
Initial Tensile Strength	D638	6,500 psi

*Values are for design conditions @ 75°F (25°C)

5.5 For the external load design in Appendix X.1 of ASTM F1216, the long-term (time-corrected) flexural modulus of elasticity shall be determined by multiplying the design initial flexural modulus of elasticity by a creep retention factor (CL). At a minimum, a creep retention factor of 50% shall be applied.

5.6 The external load design shall be based on an enhancement factor (K) of 7.0, an ovality (q) of 0%, a Poisson's (v) ratio of 0.3 and a factor of safety of 2.0.

5.7 For the internal pressure design in Appendix X.1 of ASTM F1216, the design shall be based on factor of safety of 2.0 and a long-term tensile strength equal to 1/3 of the design initial tensile strength.

5.8 The design physical properties shall be adjusted, as necessary, to account for the Normal Internal Operating Temperature specified in Section 5.3.

6 INSTALLATION

6.1 Access, Cleaning and Inspection

6.1.1 Prior to entering access areas (such as manholes) and performing inspection or cleaning operations, the Contractor shall make an evaluation of the atmosphere to determine the presence of toxic or flammable vapors or lack of oxygen. This shall be undertaken in accordance with local, state, or federal safety regulations.

6.1.2 The Contractor shall state in his prequalification submittals (see Section 3.2.6) the number and location of access points required. The Owner shall provide rights of access to the pipeline. The Contractor or Owner, as specified in the contract documents, shall provide the excavation, pipe work, reconnection and restoration for installation access points.

6.1.3 The Contractor shall remove all internal debris out of the pipeline that will interfere with the installation. Pipes shall be cleaned by the Contractor, as needed, with high-velocity jet cleaners, mechanically powered equipment, cable-attached devices or fluid-propelled devices (e.g., pipe pigs). The Owner shall provide a dump site for all debris removed from the pipe during the cleaning operation. Unless specified otherwise, this site shall be at or near the project site. Any hazardous waste material encountered during this project shall be considered as a changed condition.

6.1.4 Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles, etc., by closed-circuit television or man entry. The interior of the pipeline shall be carefully inspected to determine the location of any conditions that may prevent proper installation of the impregnated tube, and it shall be noted so that these conditions can be corrected. A video tape and suitable log shall be kept for reference. If unseen obstructions are encountered such as, but not limited to, reducers, line valves, protruding connections, etc., that will prevent proper installation, the Contractor shall remove such obstructions on written order from the Owner.

6.2 Bypassing

The Owner shall be responsible for bypassing the flow during the renovation process.

6.3 Resin Impregnation

6.3.1 The tube shall be vacuum-impregnated (wet out) with resin under controlled conditions. The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and loss of resin through cracks and irregularities in the original pipe wall.

6.3.2 The Contractor shall designate a location where the tube will be vacuum impregnated prior to installation. To ensure a thorough wet out, the point of vacuum shall be no further than 25 feet from the point of initial resin introduction. After vacuum in the tube is established, the vacuum points shall be no further than 75 feet from the leading edge of the resin. The leading edge of the resin slug shall be as near to perpendicular as possible. Vacuum points shall be sealed as they are vacated. A roller system shall be used to uniformly distribute the resin throughout the tube. The Contractor shall allow the Owner to inspect the materials and procedures used to vacuum impregnate the tube.

6.4 Installation

6.4.1 The existing pipeline shall be dewatered and free of incoming water. If water is present, measures shall be taken to minimize contact of the water with the inverting tube.

6.4.2 The wet out tube shall be inserted through an existing manhole or approved access point by means of an inversion process and the application of a hydrostatic head sufficient to extend it to the next designated manhole or termination point.

6.4.3 Before the installation begins, the Contractor shall determine the minimum pressure required to hold the tube tight against the existing pipeline, and the maximum allowable pressure so as not to damage the tube. Once the installation has started, the pressure shall be maintained between the minimum and maximum pressures until the installation has been completed. Tube installation forces or pressures shall be limited so as not to stretch the tube longitudinally by more than 5% of the original length.

6.4.4 The use of a lubricant during inversion may be needed to reduce friction. The lubricant used shall be a nontoxic product that has no detrimental effects on the tube or boiler and pump system, shall not support the growth of bacteria, and shall not adversely affect the fluid to be transported.

6.5 Curing

6.5.1 After installation is completed, a suitable heat source and water recirculation equipment shall be used to circulate heated water throughout the pipeline. The equipment shall be capable of delivering hot water throughout the pipeline to uniformly raise the water temperature above the temperature required to effect a cure of the resin. Water temperature in the line during the cure period shall be as determined by the Contractor.

6.5.2 The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. To determine the temperatures during the cure cycle, a gauge shall be placed at the beginning and termination points between the impregnated tube and the invert of the existing pipe. The temperature of the cure water shall be monitored at the termination end by placing a temperature probe through a small hole in the tube, near the invert, into the cure water. The hole in the tube shall be made such that the temperature probe fits tightly and minimizes cure water leakage.

6.5.3 Initial cure will occur during temperature heat-up and is completed when exposed portions of the new pipe appear to be hard and sound and the remote temperature sensor indicates that the temperature is of a magnitude to realize an exotherm or cure in the resin. After initial cure is reached, the temperature shall be raised to the post-cure temperature as determined by the Contractor. The post-cure temperature shall be held for a period as determined by the Contractor, during which time the recirculation of the water and cycling of the boiler to maintain the temperature continues. The curing process shall take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil).

6.6 Cool-Down

The CIPP shall be cooled to a temperature below 90°F (32°C) before relieving the hydrostatic head. Cool-down shall be accomplished by the introduction of cool water to replace water being drained from the system. Care shall be taken in the release of the static head so that a vacuum will not be developed that could damage the newly installed CIPP. In addition, the cure water incoming temperature during cool-down shall not decrease at a rate greater than 20°F (11°C) per hour.

7 INTERNAL END SEALS AND REINSTATEMENTS

7.1 The Contractor shall install end seals at each of the CIPP beginning and termination points.

7.2 The end seals shall be a mechanical, expansion type, constructed of stainless steel and elastomeric rubber seals. The end seals shall be rated by the manufacturer for the operating pressure and shall be compatible with the piped fluid. The existing pipeline at the end seal installation points shall be structurally sound and free of any significant pitting or heavy corrosion. This is required to ensure an adequate seal between the CIPP and the existing pipeline. Otherwise, replacement with a new steel spool piece at these ends may be required.

7.3 All reinstatements of tees, air relief valves, blow-off valves, threaded taps, etc., shall be completed following the procedures identified in the submittal described in Section 3.2.5 of this specification.

8 INSPECTION AND TESTING

8.1 The installation shall be inspected visually, if appropriate, or by closed-circuit television if visual inspection cannot be accomplished. Variations from true line and grade may be inherent because of the conditions of the original piping. No infiltration of groundwater shall be observed.

8.2 The finished CIPP shall be continuous over the entire length of an installation run and be free of dry spots, lifts, and delaminations.

8.3 For each inversion length designated by the Owner in the contract documents or purchase order, one CIPP sample shall be prepared for physical property testing. The sample shall be fabricated from material taken from the tube and the resin/hardener system used and cured in a clamped mold placed in the down tube during the curing process.

8.4 The CIPP samples shall be large enough to provide a minimum of three specimens and a recommended five specimens for flexural testing and tensile testing.

8.5 The CIPP samples shall be tested in accordance with ASTM D790 and D638 to confirm that the required physical properties specified in the design submittal of the proposed product (see Section 3.2.1), and the minimums in Section 5.4, have been achieved.

8.6 The CIPP shall meet the chemical resistance requirements of Section 9.

9 CHEMICAL RESISTANCE

9.1 The CIPP system proposed shall meet the minimum chemical resistance requirements listed below and shall be provided as a prequalification submittal (see Section 3.2.3). Samples used for testing shall be of the same resin system and tube materials as that proposed for the project. It is required that CIPP samples without plastic coating meet these chemical testing requirements.

9.2 Chemical resistance tests shall be completed in accordance with ASTM Test Method D 543 with the chemical solutions shown in Table 9.1. Exposure shall be for a minimum of one month at 73.4°F (23°C). During this period, the CIPP test specimens shall lose no more than 20% of their initial flexural strength and initial flexural modulus of elasticity.

9.3 For applications more stringent than standard domestic sewage, it is recommended that chemical resistance tests be conducted with actual samples of the fluid flowing in the pipe. These tests can also be accomplished by securing CIPP test specimens in the flow stream.

TABLE 9.1 Minimum Chemical Resistance Requirements

Chemical Solution	Concentration, %
Tap water (pH 6-9)	100
Nitric acid	5
Phosphoric acid	10
Sulfuric acid	10
Gasoline	100
Vegetable oil	100
Detergent	0.1
Soap	0.1

10 CLEAN-UP

10.1 Upon acceptance of the installation, the Contractor shall reinstate, to original conditions, the project area affected by the operations.

11 PAYMENT

11.1 Payment for the work included in this section shall be in accordance with the prices set forth in the proposal for the quantity of work performed.

Section K

Pressure Pipe Bypass
as per
American Water Works Association Standards

Section L

Pressure Pipe Inspection

The inspection system deployed shall follow procedures that safely pinpoints the location and estimates the magnitude of leaks in water transmission mains of any construction type.

The system shall possess the sensitivity to detect leaks as small as 0.25 gallons/hr, the inspection data gathering devices can be inserted into a pipeline while it remains in service.

The inspection system shall be able to pinpoint the location of leaks within inches; the system shall have the ability to notify pipeline operators of each leak as it is found. The leak's position is then marked on the surface, facilitating subsequent repairs.

Inspection Type - In-line Insertion	
Pipeline Material	All Types
Pipeline Diameter	12" (300mm) and above
Pipeline Pressures	10psi (0.7 bar) to 200 psi (14 bar)
Flow Velocity	1 ft/sec (0.3 m/s) and above
Insertion Point Bore	Any tap point 2" (50mm) or greater
Spacing	Up to 6,000 feet (2km) / insertion
Survey Distance / Day	Up to 2.25 miles (4 km)/day
Directional Change Accommodation	135 degrees of bends
Sensitivity	Detects leaks as small as 0.25 US gallons/hr. (1L/hr.)

Precise Surface Tracking	
Depth of Penetration or Cover	33 feet (10m) or less
Pipewall Thickness	Plastic / Concrete - Unlimited Steel - 1" (25mm) Cast / Ductile Iron - 1.6" (40mm)

Section M

Gravity Sewer Lateral Renewal Systems

CURED-IN-PLACE PIPE LATERAL RECONSTRUCTION

1 SCOPE:

It is the intent of the specification to provide for the reconstruction of service lateral pipes, normally without excavation, by the installation of a resin impregnated, flexible felt tube. The cured-in-place pipe will be installed into the existing service lateral consistent with ASTM F-1216 or F-1743 through the clean-out/access point or positioned in the mainline pipe. The resin and tube shall be held in place using internal pressure and cured into a hard impermeable pipe. When cured, the pipe should be a continuous, tight-fitting pipe-within-a-pipe. If required, the rehabilitation can provide a junction at the mainline pipe and the service lateral pipe.

2 REFERENCE SPECIFICATIONS:

This specification references ASTM test methods, which are made a part hereof by such reference and shall be the latest edition and revision thereof.

3 GENERAL CORROSION REQUIREMENTS:

3.1 The finished cured-in-place pipe shall be fabricated from materials which when cured will be chemically resistant to withstand internal exposure to domestic sewage, and meet the chemical corrosion resistance requirements of ASTM F-1216 & D-5813.
3.2 All constituent materials will be suitable for service in the environment intended. The final product will not deteriorate, corrode or lose structural strength to reduce the projected product life.
3.3 In areas subject to possible flows other than domestic sewage, the Owner shall obtain samples of the dry weather sewage flow to be analyzed for chemical content. This analysis shall be supplied to the Installer to recommend the resin per the sample.
4.1 The tube shall be fabricated to a size that when installed cured-in-place pipe will neatly fit the internal circumference of the conduit specified by the Owner.
4.2 The Owner shall determine the installation's length.
4.3 The Installer shall furnish a resin system compatible with the cured-in-place process that provides cured physical strengths and required corrosion resistance specified herein.
5.1 The structural performance of the finished pipe must be able to accommodate all anticipated loads throughout the design life of the cured-in-place pipe. No cured-in-place pipe reconstruction technology will be allowed that requires bonding to the existing pipe for any part of its structural strength. If reinforcing materials (fiberglass, etc.) are used, those materials must be corrosion resistant grade materials and be fully encapsulated within the resin to assure that the reinforcement is not compromised when exposed to the sewage.

5.2 The cured-in-place pipe shall conform to the minimum structural standards as listed below:

4 LINER MATERIALS:

The liner material shall be of non-woven polypropylene felt or approved suitable substitute. The liner will be fully saturated with an appropriate amount of epoxy or an approved suitable resin system so as to result in a solid wall conduit once cured. The cured lateral or "T" connection will conform to ASTM-790 structural properties.

5 PHYSICAL STRENGTH:

PROPERTY	**ASTM Standard**	**RESULTS**
Flexural Strength	ASTM D-790	4,500 psi
Flexural Modulus or Elasticity	ASTM D-790	250,000 psi

NOTE TO DESIGNER:
Values shown in 5.2 are for commonly used polyester resins in the United States at the time of this writing. Values for non-typical polyesters, vinyl esters, and epoxies should be substituted, when applicable. Unless otherwise specified, these values shall be supported using lab test samples.

6 INSTALLATION PREPARATIONS:

The following installation procedures shall be adhered to unless otherwise approved by the Owner's representative.

6.1 Access – The Owner shall ensure that a clean out or access point exists at or beyond the termination point of the length of service lateral to be rehabilitated. This will allow for the passage of the required cleaning and video equipment. The clean-out will be equal to or greater than the diameter of the lateral pipe. Lack of such an access point could affect the service laterals available for rehabilitation.
6.2 Safety – The installer shall carry out his operations in accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements involving entering confined spaces.
6.3 Cleaning of the existing pipe –Internal debris must be removed before installing the lateral lining system.
6.4 Inspection of the existing pipe – Pipeline inspection shall be performed by experienced personnel trained in closed circuit television systems. The interior of the pipeline shall be carefully inspected to determine the location of any condition, which may prevent proper installation of the lateral lining system. A videotape and log shall be kept for the Owner.
6.5 Bypassing Sewage – Bypassing the flow of sewage around the section or sections of mainline pipe where the service lateral(s) is/are located may be required. The pump

and bypass lines shall be of adequate capacity to handle the flow. It is required that the service lateral be inactive during the time of installation. This is normally accomplished by requesting that the homeowner refrain from using their services during the period of installation. This notification shall be offered to the homeowner at least 24-hours prior to starting their lateral repair.

6.6 Line Obstructions – If the inspection reveals an obstruction that cannot be removed using conventional sewer cleaning equipment, the obstruction will be removed or repaired by other methods approved by the Owner.

6.7 The service lateral pipe opening at the confluence with the mainline sewer should be prepared in a manner that is consistent with ASTM F-1743, Section 6.9,

7 INSTALLATION OF THE LATERAL LINING SYSTEM

7.1 The Installer shall allow the Owner to inspect the materials and "wet-out" procedure.

7.2 The installer should have a minimum of 500 successful installs to assure the quality of the installations.

7.3 The wet out tube shall be loaded on a pressure apparatus above ground. Installation shall take place by one or both of the following installation methods.

7.3.1 The pressure apparatus, with an end attached to a robotic device, shall be winched through the mainline pipe to the service connection. The robotic device, together with a television camera, will be used to position the pressure apparatus installation hardware at the service connection opening. Air pressure will be used to install the wet out tube into the lateral pipe.

7.3.2 The pressure apparatus shall be pulled in to place through the cleanout or access pit. Air pressure will be used to install the wet out tube into the lateral pipe.

7.4 Curing –Curing shall take place per the manufacturer's recommendations.

7.5 Finish – The finished cured-in-place pipe shall be free of dry spots, lifts, or delamination. The cured-in-place pipe shall not inhibit the closed circuit television post video inspection of the mainline or service lateral pipes.

7.6 During the warranty period, any defects, which will affect the integrity or strength of the cured-in-place pipe, will be repaired at the Installer's expense in a manner mutually agreed upon by the Owner and the Installer.

7.7 After the work is completed, the Installer will provide to the Owner a video record showing the completed work.

8 CLEAN-UP:

Upon completion of the installation work, the Installer will restore the area affected to its original condition at the time the rehabilitation was started.

9 PAYMENT:

Payment for the work included in this section will be in accordance with the prices set forth in the proposal for the quantities of work performed.

END OF SECTION

Section N

Manhole, Access Portal and Wet Well Renewal Systems

Part 1

Cementitious Reconstruction

1.01 **SCOPE OF WORK**

This specification shall govern all work, materials, and equipment required for manhole rehabilitation for the purpose of eliminating infiltration, providing corrosion protection, repair of voids, and restoration of the structural integrity of the manhole as a result of applying a monolithic fiber-reinforced structural/structurally enhanced Cementitious liner to the wall and bench surfaces of brick, concrete, or any other masonry construction material.

Described are procedures for manhole preparation, cleaning, application and testing. The applicator, approved and trained by the manufacturer shall furnish all labor, equipment and materials for applying a cementitious mix to form a monolithic liner of a minimum 1/2 inch thickness, with machinery specially designed for application. All aspects of the installation shall be in accordance with the manufacturer's recommendation and approved by the manufacturer.

Approved lining materials are those manufactured by:
1. Strong Seal Systems Corporation - Pine Bluff, AR
2. Quadex - Maumelle, AR
3. Standard Cement Materials, Inc. - Houston, TX.
4. PermaCast MS 10000
5. Cooperative member approved equal

1.02 **PATCHING MIX**

A quick setting Cementitious material, shall be used as a patching mix and is to be mixed and applied according to manufacturer's recommendations and shall have the following minimum requirements:

A.	Compressive Strength (ASTM C-109)	6Hrs. 1400 psi
B.	Shrinkage (ASTM C-596)	0% at 90% R.H.
C.	Bond (ASTM C-321)	28 days, 150 psi
D.	Density, when applied	105+ (-) pcf

1.03 **INFILTRATION CONTROL MIX**

A rapid setting Cementitious product specifically formulated for leak control, shall be used to stop minor water infiltration and shall be mixed and supplied according to manufacturer's recommendations and shall have the following minimum requirements:

A. Compressive strength (ASTM C-109)

600psi	1 Hr.
1000 psi	24 Hrs.

B. Bond (ASTM C-32)

30 psi	1 Hr.
80 psi	24 Hrs.

1.04 GROUTING MIX

A. Cementitious grout shall be used for stopping very active infiltration and filing voids and shall be mixed and applied according to manufacturer's recommendations. The Cementitious grout shall be volume stable, and have a minimum 28 day compressive strength of 250 psi and a 1 day strength of 50 psi.

B. Chemical grouts may be used for stopping very active infiltration and shall be mixed and applied per manufacturer's recommendations.

1.05 LINER MIX

A Cementitious liner, shall be used to form a Structural/Structurally enhanced monolithic liner covering all interior manhole surfaces and shall have the following minimum requirements at 28 days.

A.	Compressive Strength (ASTM C-109)	3000psi
B.	Tensile Strength (ASTM C-496)	300 psi
C.	Flexural Strength (ASTM C-293)	600 psi
D.	Shrinkage (ASTM C-596) @ 90% relative humidity	0% psi
E.	Bond (ASTM C-321)	130 psi
F.	Density, when applied	105 + -(-) pcf

1. The *Cementitious Liner* shall be made with Type I or Type II Portland Cement and shall be used according recommendations in applications where there is or very mild sulfide conditions pH 3.0 or higher).

1.06 WATER

Shall be clean and potable. Questionable water shall be tested by a testing laboratory in accordance with ASTM C-94; Potable water need not be tested.

1.07 <u>EQUIPMENT</u>

A. Specially designed machines consisting of an optimized progressive cavity pump capable of producing a minimum of 250 psi pumping pressure, contra-blend mixer with twin ribbon paddle with end discharge, and an air system for spray application of product, shall be used for applying the Cementitious lining.

B. The Contractor will be responsible to ensure that application and installation of the Cementitious liner is made in accordance with, and approved by the manufacturer.

1.08 <u>PREPARATION</u>

A. Place covers over invert to prevent extraneous material from entering the sewer lines.

B. All foreign material shall be removed from the manhole wall and bench using a high-pressure water spray (minimum 1200 psi). Loose and protruding brick, mortar, and concrete shall be removed using a mason's hammer and chisel and/or scraper. Fill any large voids with quick setting patching mix.

C. Active leaks shall be stopped using quick setting specially formulated mixes paragraphs, according to manufacturer's recommendations. Some leaks may require weep holes to localize the infiltration during the application after which the weep holes shall be plugged with the quick setting mix prior to the final liner application. When severe infiltration is present, drilling may be required in order to pressure grout using a Cementitious grout. Manufacturer's recommendations shall be followed when pressure grouting is required.

1.09 <u>INVERT REPAIR</u>

A. After all preparation has been completed, remove all loose materials and wash wall again.

B. Any bench, invert, or service line repairs shall be made at this time using the quick setting patching mix and shall be used per manufacturer's recommendations.

C. Invert repair shall be performed on all inverts with visible damage or infiltration. After blocking flow through the manhole, and thoroughly cleaning invert, the quick setting patch mix shall be applied to the invert in an expeditious manner. The mix shall be troweled uniformly onto the damaged invert extending out onto the base of the manhole sufficiently to tie into the structural/structurally enhanced monolithic liner to be applied. The finished invert surfaces shall be smooth and free of ridges. The flow may be re-established in the manhole within 30 minutes after placement of the mix.

1.10 MIXING

A. For each bag of product, use the amount of water specified by the manufacturer and mix using the approved equipment and in accordance with the manufacturer's equipment.

B. Place the mix into the holding hopper and prepare another batch with timing such that the nozzleman can spray in a continuous manner without interruption until each application is complete.

1.11 SPRAYING

1st Application

A. The surface prior to spraying shall be clean, free of all foreign material, and shall be damp without noticeable free water droplets or running water, but totally saturated, just prior to application. Materials shall be spray applied from the bottom of the wall to the top, to a minimum uniform thickness to ensure that all cracks, crevices, and voids are filled and a relatively smooth surface remains right after troweling. The light troweling is performed to compact the material into voids and to set the bond.

2nd Application

B. A second application is applied after the 1st application has begun to take an initial set (disappearance of surface sheen which could be 15 minutes to 1 hour depending on ambient conditions) to assure a minimum total finished thickness of ½ inch. Again, application shall be from the bottom up. The surface is then trowelled to a smooth finish being careful not to over trowel so as to bring additional water to the surface and weaken it. Manufacturer’s recommendations shall be followed whenever more than 24 hours have elapsed between applications. A brush finish is accepted and is applicators option.

3rd Application

C. The wooden covers shall be removed at this time and the bench sprayed such that a gradual slope is produced from the walls to the invert with the thickness at the edge of the invert being no less than ½ inch. The wall/bench intersection shall be rounded to a uniform radius the full circumference of the intersection.

1.12 CURING

Caution shall be taken to minimize exposure of applied product to sunlight and air movement. If application of second coat is to be longer than 15 minutes after completion of application of 1st coat, the manhole cover shall be set back in place. At no time should the finished product be exposed to sunlight or air movement for longer than 15 minutes before replacing the manhole cover. In extremely hot and arid climates manhole should be shaded while reconstruction is in process.

The final application shall have a minimum of four (4) hours cure time before being subjected to active flow.

Traffic shall not be allowed over manholes for 24 hours after reconstruction is complete.

1.13 WEATHER

Contractor will apply Cementitious lining in accordance with manufacturers requirements concerning weather conditions.

1.14 PRODUCT TESTING

Four - 2 inch cubes shall be cast each day or from every 50 bags of product used, and shall be properly labeled and sent in for testing in accordance with the Cooperative member's or Manufacturer's directions, for compression strength testing as described in ASTM C-109.

1.15 FINAL ACCEPTANCE TESTING

At the direction of the Cooperative member or his assignee, the rehabilitated manholes shall be tested as follows:

Visually verify the absence of leaks.

Perform an exfiltration test as follows:

A. For manholes 0 to 6 foot deep - If water loss is one (1) inch or less in five minutes manhole is acceptable.

B. For manholes over 6 feet deep - If water loss is one (1) inch or less plus 1/8 inch per additional foot of depth in five minutes, manhole is acceptable.

1.16 WARRANTY

Contractor will warranty that installation of the Cementitious liner was performed in accordance with manufacturer's recommendation and will remain free from defects, failure of the liner due to defective material, installation, or workmanship for a period of five years from the Date of Completion.

Part 2

Epoxy Application

This specification governs the work, materials and equipment required for protecting and/or rehabilitating concrete structures by spray-application of a monolithic high-build epoxy coating to eliminate infiltration, provide corrosion protection, repair voids and enhance structural integrity. Procedures for surface preparation, cleaning, application and testing are described herein.

1.00 GENERAL

1.01 SECTION INCLUDES

A. Requirements for surface preparation, repairs and solvent-free epoxy coating application to specified surfaces.

1.02 RELATED SECTIONS

A. Concrete Repair.

B. Environmental, Health and Safety.

1.03 REFERENCES

A. ASTM D638 - Tensile Properties of Plastics.

B. ASTM D790 - Flexural Properties of Unreinforced and Reinforced Plastics.

C. ASTM D695 - Compressive Properties of Rigid Plastics.

D. ASTM D4541 - Pull-off Strength of Coatings Using a Portable Adhesion Tester.

E. ASTM D2584 - Volatile Matter Content.

F. ASTM D2240 - Durometer Hardness, Type D.

G. ASTM D543 - Resistance of Plastics to Chemical Reagents.

H. ASTM C109 - Compressive Strength Hydraulic Cement Mortars.

I. ASTM C396 - Compressive Strength of Cement Mortars.

J. ACI 506.2-77 - Specifications for Materials, Proportioning, and Application of Shotcrete.

K. ASTM C579 - Compressive Strength of Chemically Setting Silicate and Silica Chemical Resistant Mortars.

L. ASTM - The published standards of the American Society for Testing and Materials, West Conshohocken, PA.

M. NACE - The published standards of National Association of Corrosion Engineers (NACE International), Houston, TX.

N. SSPC - The published standards of the Society of Protective Coatings, Pittsburgh, PA.

1.04 SUBMITTALS

A. The following items shall be submitted at the direction of the Cooperative member:

1. Technical data sheet on each product used, including ASTM test results indicating the product conforms to and is suitable for its intended use per these specifications.
2. Material Safety Data Sheets (MSDS) for each product used.
3. Project specific guidelines and recommendations.
4. Design details for any additional ancillary systems and equipment to be used in site and surface preparation, application and testing.

1.05 QUALITY ASSURANCE

A. Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE and SSPC standards and the protective coating manufacturer's recommendations.

B. (OPTIONAL) A NACE Certified Coating Inspector shall be provided by Cooperative member. The Inspector will observe daily operations, procedures and final product to ensure adherence to the specifications by Applicator.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Materials are to be kept dry, protected from weather and stored under cover.

B. Protective coating materials are to be stored between 50 deg F and 90 deg F. Do not store near flame, heat or strong oxidants.

C. Protective coating materials are to be handled according to their material safety data sheets.

1.07 SITE CONDITIONS

A. Applicator shall conform with all local, state and federal regulations including those set forth by OSHA, RCRA and the EPA and any other applicable authorities.

B. Method statements and design procedures are to be provided by Cooperative member when confined space entry, flow diversion, debris removal or bypass is necessary in order for Applicator to perform the specified work.

1.08 WARRANTY

A. Applicator shall warrant all work against defects in materials and workmanship for a period of one (1) year, unless otherwise noted, from the date of final acceptance of the project. Applicator shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during said one (1) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without cost to the Cooperative member.

2.00 PRODUCTS

2.01 EXISTING PRODUCTS

A. Standard Portland cement or new concrete (not quick setting high strength cement) must be well cured prior to application of the protective coating. Generally, 28 days is adequate cure time for standard Portland. If earlier application is desired, compressive or tensile strength of the concrete can be tested to determine if acceptable cure has occurred. (Note: Bond strength of the coating to the concrete surface is generally limited to the tensile strength of the concrete itself.)

B. Cementitious patching and repair materials should not be used unless their manufacturer provides information as to its suitability for topcoating with an epoxy coating. Project specific submittals and procedures should be provided including application, cure time and surface preparation procedures which permit optimum bond strength with the epoxy coating.

C. Remove existing coatings prior to application of the new protective coating. Applicator is to maintain strict adherence to applicable NACE and SSPC recommendations with regard to proper surface preparation and compatibility with existing coatings.

2.02 MANUFACTURERS

A. Raven Lining Systems, Inc., Tulsa, Oklahoma 800-324-2810 or 918-584-2810 or FAX 918-582-4311.

B. Quadex Sewer Rehab Products☐, Little Rock, AR 501-803-9400 or FAX 501-803-9444.

2.03 REPAIR MATERIALS

A. Repair materials shall be used to fill voids, structurally reinforce and/or rebuild surfaces, etc. as determined necessary by the engineer and protective coating applicator. Repair materials must be compatible with the specified epoxy coating and shall be applied in accordance with the manufacturer's recommendations.

B. As an example, the following products may be accepted and approved by the protective coating manufacturer and could be used within the specifications:

1. 100% solids, solvent-free epoxy grout that can be troweled or sprayed and specifically formulated for optimum epoxy topcoating compatibility. The epoxy grout manufacturer shall provide instructions for epoxy topcoating procedures.

2. Factory blended, rapid setting, high early strength, fiber reinforced, non-shrink repair mortar that can be trowelled or pneumatically spray applied may be approved if specifically formulated to be suitable for epoxy topcoating. Such repair mortars should not be used unless their manufacturer provides information as to its suitability for topcoating with an epoxy coating. Project specific submittals should be provided including application, cure time and surface preparation procedures which permit optimum bond strength with the epoxy coating.

3. Shotcrete shall conform to all requirements of ACI-506.2-77 as published by the American Concrete Institute, Detroit, MI except as modified by these specifications. Shotcrete composed of Portland Cement, aggregate and water so proportioned as to produce a concrete suitable for pneumatic application. Shotcrete ingredients shall be selected, proportioned in such a manner as will produce sound concrete that is

strong, dense and suitable for polymer topcoating. Cured shotcrete shall have a minimum surface tensile strength of 300 psi.

No coatings shall be applied prior to a full 28 day cure unless test patches of coatings exhibit acceptable bonding characteristics and no outgassing as prescribed herein or the repair mortar manufacturer certifies acceptable topcoating parameters.

2.04 PROTECTIVE COATING MATERIALS

A. Raven Lining Systems' Raven 405 coating system - a 100% solids, solvent-free two-component epoxy resin system thixotropic in nature and filled with select fillers to minimize permeability and provide sag resistance acceptable to these specifications (up to 200 mils in a single coat).

Product type	Amine cured epoxy
Color	Light Blue
Solids Content (vol %)	100
Mix Ratio	3:1
Flexural Modulus	800,000 psi
Flexural Strength	13,000 psi
Compressive Strength	18,000 psi
Tensile Strength	7,600 psi
Tensile Elongation	1.50 %
Hardness, Type D	88
Bond Strength - Concrete	>Tensile Strength of Concrete
Chemical Resistance to:	
{Examples}	
Sulfuric Acid, 10%	Immersion Service
Sodium Hydroxide, 20%	Immersion Service
MEK	Incidental Contact
{include reagents relevant to the project}	

2.05 PROTECTIVE COATING APPLICATION EQUIPMENT

A. Manufacturer heated plural component spray equipment shall be used in the application of the specified protective coating.

2.06 REPAIR MORTAR SPRAY APPLICATION EQUIPMENT (if spray applied)

A. Spray applied repair mortars shall be applied with manufacturer approved equipment.

3.00 INSTALLATION

3.01 ACCEPTABLE APPLICATORS

A. Repair mortar applicators shall be trained to properly apply the cementitious mortar according to manufacturer's recommendations.

B. Protective coating must be applied by a Certified Applicator of the protective coating manufacturer and according to manufacturer specifications.

3.02 EXAMINATION

A. All structures to be coated shall be readily accessible to Applicator.

B. Appropriate actions shall be taken to comply with local, state and federal regulatory and other applicable agencies with regard to environment, health and safety.

C. Any active flows shall be dammed, plugged or diverted as required to ensure that the liquid flow is maintained below the surfaces to be coated.

D. Installation of the protective coating shall not commence until the concrete substrate has properly cured and been prepared in accordance with these specifications.

E. Temperature of the surface to be coated should be maintained between 40 deg F and 120 deg F during application. Prior to and during application, care should be taken to avoid exposure of direct sunlight or other intense heat source to the structure being coated. Where varying surface temperatures do exist, care should be taken to apply the coating when the surface temperature is falling versus rising (i.e., late afternoon into evening … as opposed to … morning into afternoon).

3.03 SURFACE PREPARATION

A. Applicator shall inspect all surfaces specified to receive a protective coating prior to surface preparation. Applicator shall notify Cooperative member of any noticeable disparity in the surfaces which may interfere with the proper preparation or application of the repair mortar and protective coating.

B. All contaminants including: oils, grease, unsound or incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants shall be removed.

C. All concrete that is not sound or has been damaged by chemical exposure shall be removed to a sound concrete surface or replaced.

D. Surface preparation method(s) should be based upon the conditions of the substrate and the requirements of the epoxy protective coating to be applied.

E. Surfaces to receive protective coating shall be cleaned and abraded to produce a sound concrete surface with adequate profile and porosity to provide a strong bond between the protective coating and the substrate. Generally, this can be achieved with a low pressure water cleaning using equipment capable of 5,000 psi at 5 gpm, using a zero degree rotating nozzle. Other methods such as high pressure water jetting (refer to NACE Standard No. 5/SSPC-SP12), abrasive blasting, shotblasting, grinding, scarifying or acid etching may also be used. Detergent water cleaning and hot water blasting may be necessary to remove oils, grease or other hydrocarbon residues from the concrete. Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound clean neutralized surface that is not excessively damaged.

F. Infiltration shall be stopped by using a material which is compatible with the specified repair mortar and is suitable for topcoating with the specified epoxy protective coating.

G. Test prepared surfaces after cleaning but prior to application of the epoxy coating to determine if a specific pH or moisture content of the concrete is required according to manufacturer's recommendations.

H. All surfaces should be inspected during surface prep and before the repair mortar is applied.

3.04 APPLICATION OF REPAIR MATERIALS

A. Areas where structural steel has been exposed or removed shall be repaired in accordance with the Project Engineer's recommendations.

B. Repair materials shall meet the specifications contained herein. The materials shall be trowel or spray applied utilizing proper equipment on to specified surfaces. The material thickness shall be specified by the Project Engineer according to Cooperative member's requirements and manufacturer's recommendations.

C. Cementitious repair materials shall be trowelled to provide a smooth surface with an average profile equivalent to coarse sandpaper to optimally receive the protective coating. No bugholes or honeycomb surfaces should remain after the final trowel procedure of the repair mortar.

D. The repair materials shall be permitted to cure according to manufacturer recommendations.

E. Application of the repair materials, if not performed by the coating certified applicator, should be inspected by the protective coating manufacturer's representative or certified applicator to ensure proper finishing for suitability to receive the specified coating.

F. After abrasive blast and leak repairs have been performed, all surfaces shall be inspected for remaining laitance prior to protective coating application. Any evidence of remaining contamination or laitance shall be removed by additional abrasive blast, shotblast or other approved method. If repair materials are used, refer to these specifications for surface preparation. Areas to be coated must also be prepared in accordance with these specifications after receiving a cementitious repair mortar and prior to application of the epoxy coating.

G. All surfaces should be inspected during and after preparation and before the protective coating is applied.

3.05 APPLICATION OF COATING

A. Unless otherwise specified by the Cooperative member, coatings are to be applied with the following thickness: Quadex Hyperform Cementitious Product ½" thick and Raven 405 80 mils thick.

B. Areas where structural steel has been exposed or removed shall be repaired in accordance with Cooperative member's recommendations.

C. If using approved cementitious materials as a basecoat, such shall be trowelled to provide a smooth surface with an average profile equivalent to coarse sandpaper to optimally receive the coating. No bugholes or honeycomb surfaces should remain after the final trowel procedure of the repair mortar.

D. After cleaning and leak repair is performed, all surfaces shall be inspected for remaining laitance prior to coating application. Any evidence of remaining contamination or laitance shall be removed. Areas to be coated must also be prepared in accordance with these specifications after receiving a cementitious repair mortar and prior to application of the epoxy coating.

3.06 APPLICATION OF PROTECTIVE COATING

A. Application procedures shall conform to the recommendations of the protective coating manufacturer, including material handling, mixing, environmental controls during application, safety, and spray equipment.

B. The spray equipment shall be specifically designed to accurately ratio and apply the specified protective coating materials and shall be regularly maintained and in proper working order.

C. The protective coating material must be spray applied by a Certified Applicator of the protective coating manufacturer.

D. Specified surfaces shall be coated by spray application of a moisture tolerant, solvent-free, 100% solids, epoxy protective coating as further described herein. Spray application shall be to a minimum wet film thickness of 100 mils and an average wet film thicknesses of 125 mils.

Concrete, New/Smooth:	60-100 mils for immersion, 30-80 mils for atmospheric, splash and spill exposure.
Concrete, Rough:	60-125+ mils
Masonry/Brick:	60-150+ mils
Steel:	25-80 mils for immersion, 16-40 mils for atmospheric, splash and spill exposure; also profile dependent.

Fiberglass Systems: 40-60 mils tack coat, 9 oz/yd^2 fabric, 40-60 mils top coat. Varies with circumstances.

(Thicknesses shown above are for general purposes only, each project should be evaluated independently and thickness of system determined upon product, service environment, protection and restoration requirements.)

E. Airless spray application equipment approved by the coating manufacturer shall be used to apply each coat of the protective coating. Air assisted spray application equipment may be acceptable, especially for thinner coats (<10 mils), only if the air source is filtered to completely remove all oil and water.

F. If necessary, subsequent topcoating or additional coats of the protective coating should occur as soon as the basecoat becomes tack free, ideally within 12 hours but no later than the recoat window for the specified product. Additional surface preparation procedures will be required if this recoat window is exceeded.

G. (Optional) Fiberglass woven-roving fabric may be rolled into the resin or chopped glass spray applied with the resin for added tensile and flexural strength where desired, such as the crown of pipes. Sloped surfaces of the floor may be made non-skid by broadcasting aluminum oxide or silica sand into the surface prior to gelation.

3.07 TESTING AND INSPECTION

A. Thickness Testing: During application a wet film thickness gage, such as those available through Paul N. Gardner Company, Inc. meeting ASTM D4414 - Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used to ensure a monolithic coating and uniform thickness during application.

B. Holiday Testing: After the protective coating has set hard to the touch it shall be inspected with high-voltage holiday detection equipment. Surfaces shall first be dried; an induced holiday shall then be made on to the coated concrete surface and shall serve to determine the minimum/maximum voltage to be used to test the coating for holidays at that particular area. The spark tester shall be initially set at 100 volts per 1 mil (25 microns) of film thickness applied but may be adjusted as necessary to detect the induced holiday (refer to NACE RPO188- 99). All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or other hand tooling method. After abrading and cleaning, additional protective coating material can be hand applied to the repair area. All touch-up/repair procedures shall follow the protective coating manufacturer's recommendations.

C. Bond Strength: Measurement of bond strength of the protective coating to the substrate can be made at regular intervals and along different sections of the structure (i.e., crown of pipe, wall, invert -- every 200 ft). Bond strength can be measured in accordance with ASTM D4541. Any areas detected to have inadequate bond strength shall be evaluated by the Project Engineer. Further bond tests may be performed in that area to determine the extent of potentially deficient bonded area and repairs shall be made by Applicator in strict accordance with manufacturer's recommendations.

D. Visual Inspection: A final visual inspection shall be made by the Inspector and manufacturer's representative. Any deficiencies in the finished coating shall be marked and repaired according to the procedures set forth herein by Applicator.

E. The municipal sewer system may be put back into non-severe operational service as soon as the final inspection has taken place. However, for severe corrosion duty such as high concentrations of acids, bases or solvents, 3 to 7 days and/or force cure by heat induction to the coated surfaces may be necessary prior to returning to service. Consult coating manufacturer for further details.

Part 3

Modified Polymer and Polyurethane/Polymeric Blend Foam Applications

1.01 DESCRIPTION

The work described within details a complete program for manholes. This section details the methods, procedures, materials and equipment as required to produce “A Total System for Manholes”. The completed system will provide a corrosion resistant liner that restores walls to original surface levels and eliminates water infiltration and exfiltration.

1.02 REFERENCES

A. ASTM 4541 - Adhesion
B. ASTM D412 - Tensile Strength (PSI)
C. ASTM D412 - Elongation (%)
D. ASTM D2240 - Tear Strength (PLI)
E. ASTM D1737 - Hardness
F. ASTM D1737 - Flexibility (1/8” mandrel)
G. ASTM 4060 - Taber Abrasion (mg loss)
H. CIGMAT Evaluation (UH 96-7) of Spectrashield Liner System for Wastewater Concrete and Clay Brick Facilities. University of Houston Department of Civil Engineering: December 1996

1.03 SUBMITTALS

All materials and procedures required to establish compliance with the specifications shall be submitted to the owner/engineer for review/approval. Submittals shall include at least the following:

1. Technical Data Sheet on each product used.
2. Material Safety Data Sheet (MSDS) for each product used.
3. ASTM References.
4. CIGMAT Evaluation.
5. Descriptive literature, bulletins and or catalogs of materials.

6. Work procedures including flow diversion plan, method of repair, etc.
7. Material and method for repair of leaks or cracks in manholes.
8. Final installation report on completed manholes.

1.04 10-YEAR LIMITED WARRANTY

CCI Spectrum, Inc. (manufacturer) and Applicator warrant the SPECTRASHIELD manhole liner against failure for a period of 10 years. "Failure" will be deemed to have occurred if the protective lining fails to
(a) prevent the internal damage or corrosion of the structure (b) protect the substrate and environment from contamination by effluent. If any such failure occurs within 10 years of initial completion of work on a structure, the damage will be repaired to restore the lining at no cost to the Owner within 60 days after written notification of the failure. "Failure" does not include damage resulting from mechanical or chemical abuse or act of God. Mechanical or chemical abuse means exposing the lined surfaces of the structure to any mechanical force or chemical substance not customarily present or used in connection with structures of the type involved. There are no warranties express or implied other than those specifically stated in this section 1.03. Any liability for consequential and incidental damages is expressly disclaimed. Liability is limited to and shall not exceed the purchase price paid.

1.05 QUALITY ASSURANCE

A. The manufacturer and/or applicator of the total liner system of manholes shall be a company that specializes in the design, manufacture or installation of corrosion protection systems for manholes. Applicator shall be completely trained in leak repair, surface preparation and corrosion materials application on manholes. Corrosion materials/products shall be suitable for installation in a severe hydrogen sulfide environment without any deterioration to the liner.

B. The applicator shall be trained and certified by the manufacturer for the handling, mixing, application and inspection of the liner system as described herein.

C. To ensure total unit responsibility, all materials and installation thereof shall be furnished and coordinated with/by one supplier/applicator who turnkeys the work and assumes full responsibility for the entire operation.

PART II – PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. The materials to be utilized in the lining of manholes shall be designed and manufactured to withstand the severe effects of hydrogen sulfide in a wastewater environment. Manufacturer of corrosion protection products shall have long proven experience in the production of the lining products utilized and shall have satisfactory installation record.

B. Equipment for installation of lining materials shall be high quality grade and be as recommended by the manufacturer.

C. The lining system to be utilized for manhole structures shall be a multi-component stress skin panel liner system as described below:

1. Liner.

Installation	Liner
Moisture barrier	Modified Polymer
Surfacer	Polyurethane/Polymeric blend foam
Final corrosion barrier	Modified polymer

2. Modified polymer shall be sprayable, solvent free, two-component polymeric, moisture/chemical barrier specifically developed for the corrosive wastewater environment.

TYPICAL CHEMICAL ANALYSIS

"A" Component

Viscosity, 77° F, cps.	450
Physical State	Liquid
Color	Clear to amber
Hygroscopicity	Reacts with water

"B" Component

Viscosity, 77° F, cps.	500
Physical State	Liquid
Color	Flamingo Pink
Non-Volatile	100%

Reaction Profile (100 grams, 175° F sample)

Gel Time, seconds	10
Tack Free Time, seconds	20
Cure Time, seconds	90

Processing

A System / B System, volume ratio	1.00 / 1.00

Typical Physical Properties

Tensile Strength, PSI	>3600
Elongation, %	>300
Tear Strength, PLI	>5000
Shore A Hardness	96
100% Modulus, PSI	>2500

1. Polyurethane Rigid Structure Foam, low viscosity two-component, containing flame retardants.

TYPICAL CHEMICAL ANALYSIS

"A" Component

Viscosity, 77° F, cps. Physical State Color Hygroscopic ity		200 Liquid Dark Brown Reacts with water and evolves CO_2 gas
Viscosity, 77° F, cps.	"B" Component	660
Physical State Color Hygroscopic ity		Liquid Transparent Dark Absorbs water rapidly thus changing ratio

Reaction Profile (100 grams, 77° F sample)

Cream Time, seconds	1-4
Tack Free time, seconds	5-8
Rise Time, seconds	6-10

Processing

A System / B System, volume ratio	1.00 / 1.00

Typical Physical Properties

Density, nominal, core, lbs./ft3 ASTM D-1622 @ 74° F	4-10
Compression Strength, ASTM D-1621 @74° F parallel rise; PSI	90-150
Closed Cell Content, % @ 74° F	Over
95 Shear Strength, PSI - ASTM C-273 @ 74° F	225-
250	

4. Total thickness of multi-component stress panel liner shall be a minimum of 500 mils.

Product shall be SPECTRASHIELD, by CCI Spectrum, Inc.

PART III - EXECUTION

3.01 INSPECTION

A. Applicator shall take appropriate action to comply with all local, state and federal regulations including those set forth by OSHA, EPA, the Owner and any other applicable authorities.

B. Prior to conducting any work, perform inspection of structure to determine need for protection against hazardous gases or oxygen depleted atmosphere and the need for flow control or flow Diversion.

C. Submit plan for flow control or bypass to owner/engineer for approval prior to conducting the work.

D. New Portland cement structures shall have endured a minimum of 28 days since manufacture prior to commencing installation of the liner system.

3.02 SURFACE PREPARATION

A. Conduct surface preparation program to include monitoring of atmosphere for hydrogen sulfide, methane, low oxygen or other gases, approved flow control equipment, and surface preparation equipment.

B. Surface preparation methods may include high pressure water cleaning, hydro blasting, abrasive blasting, grinding, detergent water cleaning and shall be suited to provide a surface compatible for installation of the liner system.

C. Surface preparation method shall produce a cleaned, abraded and sound surface with no evidence of laitance, loose concrete, brick or mortar, contaminants or debris, and shall display a surface profile suitable for application of liner system.

D. After completion of surface preparation, perform the seven point check list, which is the inspection for:

1. Leaks
2. Cracks
3. Holes
4. Exposed Rebar
5. Ring and Cover condition
6. Invert Condition
7. Inlet and Outlet Pipe Condition

E. After the defects in the structure are identified, repair all leaks with a chemical or hydraulic sealant designed for use in field sealing of ground water. Severe cracks shall be "repaired with a urethane based chemical" sealant. Product to be utilized shall be as approved by owner/engineer prior to installation. Repairs to exposed rebar, defective pipe penetrations or inverts, etc. shall be repaired utilizing non-shrink grout or approved alternative method.

3.03 MATERIAL INSTALLATION

A. Application procedures shall conform to recommendations of the manufacturer, including materials handling, mixing, environmental controls during application, safety and spray equipment.

B. Spray equipment shall be specifically designed to accurately ratio and apply the liner system.

C. Application of multi-component liner system shall be in strict accordance with manufacturer's recommendation. Final installation shall be a minimum of 500 mils. A permanent identification and date of work performed shall be affixed to the structure in a readily visible location.

D. Provide final written report to owner/engineer detailing the location, date of report, and description of repair.

3.04 INSPECTION

A. Final liner system shall be completely free of pinholes or voids. Liner thickness shall be the minimum value as described herein.

B. Visual inspection shall be made by the Owner/Engineer. Any deficiencies in the finished liner system shall be marked and repaired according to the procedures set forth by Manufacturer.

C. The sewer system may be returned to full operational service as soon as the final inspection has taken place.

Part 4

Cured-In-Place Manhole Reconstruction

1.1 Description

This item shall govern manhole lining complete and in place and the materials used therein, including cleaning, interior surface restoration, priming the prepared surface and Liner System. The Contractor shall submit descriptive information including technical data sheets and ASTM test results on each Liner System proposed indicating that the product conforms to and it is suitable for its intended use per these specifications.

1.2 Certification and Submittals

(1) Manufacturer shall certify that Installer has been trained and approved in the handling and installation of the products to be used.
(2) Equipment to be used for installation of the products by the Installer shall be certified and approved by the Manufacturer.
(3) Five (5) recent references, a minimum of 15,000 vertical feet, for Installation indicating successful installation of proposed Liner System shall be submitted by Contractor. All submittals shall be received and approved by Engineer prior to commencing work.

1.3 References

This specification references the ASTM International (formerly American Society for Testing and Materials) standards and specifications, which are made a part hereof by such reference and shall be the latest edition and revision thereof.

D-638 Standard Test Method for Tensile Properties of Plastics
D-695 Standard Test Methods for Compressive Properties of Rigid Plastics
D-790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
D-2240 Standard Test Method for Rubber Property -Durometer Hardness

1.4 Installation Preparation

Proper surface preparation procedures must be followed to ensure adequate bond strength to any surface to be lined.

(1) Installer shall inspect all surfaces specified to be lined prior to surface preparation.

Applicator shall notify Owner of any noticeable disparity in the surfaces that may interfere with the liner installation.

(2) All concrete that is not sound or has been damaged by chemical exposure shall be removed to a sound, concrete surface.

(3) All contaminants including: all oils, grease, incompatible existing coatings or liners, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants shall be removed. Surface preparation method(s) should be based upon the conditions of the substrate and the requirements of the product to be installed.

(4) All surfaces of the host structure are to be cleaned with a high-pressure hydro-jet sprayer with an operating pressure of at least 4,000-psi.

(5) After pressure cleaning, surface may be cleaned with degreaser or other solvents as needed in order to remove any film or residue on the surface. Structure shall then be pressure rinsed with water.

(6) All incoming laterals and main truck line openings shall be properly trimmed and grouted with hydraulic or Portland Type II Cement, forming a filet between the structure wall and each pipe.

(7) All inlet and outlet pipes should be trimmed so they do not extend into the structure more than two inches. Such application of grout shall extend at least six inches from the outlet onto the wall area.

(8) Benches, walls and floors shall be repaired or refinished as appropriate using chemical grout, hydraulic cement or Portland type II cement.

(9) Bench areas and floors shall be lined with Liner System materials saturated with the epoxy resin and placed in the bottom and extending approximately 6 inches up the wall section, so as to overlap with the liner wall section.

1.5 Product Delivery, Handling and Storage

(1) Liner System materials are to be handled according to their material safety data sheets.

(2)Materials are to be kept dry, protected from weather, stored under cover and sealed until ready for use (in accordance with manufacturer's specifications.

(3) Materials are to arrive at the worksite in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

1.6 Rehabilitation Conditions and Liner Systems

Liner Systems are designed for use as a non-porous, multi-layer structural system for rehabilitation of structures such as manholes. Liner system shall provide an impervious water, and sewer gas resistant membrane layered between layers of structural fiberglass or polyester fiber.

This waterproof liner system shall seal off infiltration and exfiltration. The epoxy resins used in conjunction with the fiberglass liner fabric shall be resistant to gases and chemicals typically encountered in domestic sewer systems. The liner shall permanently adhere to wet or dry surfaces of brick, concrete, PVC, and ductile iron. Liner System shall prevent further deterioration, infiltration, and exfiltration while providing structural reinforcement to the existing structure and providing a chemical and sewer gas resistant protective lining system.

Liner System shall allow for the rehabilitation of concentric, eccentric or flat top structures without removing the ring top section or corbel. All liner material and components shall be custom fabricated at the manufacturing facility to fit the size and shape of each individual structure. Structure measurements shall be taken on-site and liners manufactured prior to commencement of installation to minimize the on-site field time required for the liner installation. Liner System to be installed to be determined through on-site field investigation, as selected from the following systems:

Liner System A - Multiple structural fiberglass layers with a non-porous membrane bonded between the layers of fiberglass, with a total fabric weight of 68 oz. per square yard, saturated with 100% solids epoxy, cured-in-place (via air pressure and steam heat injection), and bonded to the existing structure. Liner system is designed for structures with serious deterioration, infiltration or exfiltration problems.

Liner System B - Multiple structural fiberglass layers with a non-porous membrane bonded between the layers of fiberglass, with a total fabric weight of 56 oz. per square yard, saturated with 100% solids epoxy, cured-in-place (via air pressure and steam heat injection), and bonded to the existing structure. Liner system is designed for structures with moderate deterioration, infiltration or exfiltration problems

Liner System C - Multiple layer composite with non-porous membrane mechanically bonded between the layers of polyester fiber or 2 layers of 12 oz. PSY woven roving fiberglass, saturated with 100% solids epoxy, cured-in-place (via air pressure and steam heat injection), and bonded to the existing structure. Liner system is designed for structures with mild to moderate deterioration, preventive maintenance, and new construction.

1.7 Materials and Components

Liner A shall be a three-layered composite system with a total pre-saturated fabric weight of 68-ozs. per square yard. Layer #1 is 24-oz. structural fiberglass impregnated with a modified epoxy resin and bonded to the existing substructure. Layer #2 shall be a 20-oz. non-porous membrane of special synthetic materials bonded to layer #1 and layer #3. Layer #3 shall consist of a 24-oz. structural fiberglass saturated with epoxy and bonded to the nonporous membrane, forming a smooth interior wall to the host structure.

Liner B shall be a three-layered composite system with a total pre-saturated fabric weight of 56-ozs. per square yard. Layer #1 shall be an 18-oz. structural fiberglass impregnated with a modified epoxy resin and bonded to the existing substructure. Layer #2 shall be a 20-oz. nonporous membrane of special synthetic materials bonded to layer #1 and layer #3. Layer #3 shall consist of 18-oz. structural fiberglass saturated with epoxy and bonded to the nonporous membrane, forming a smooth interior wall to the host structure.

Liner C shall be a three-layered composite system. Layer #1 shall be a non-woven polyester or 12-oz. structural fiberglass, impregnated with a modified epoxy resin and bonded to the existing substructure. Layer #2 shall be a non-porous membrane of special synthetic materials mechanically bonded between layer #1 and layer #3. Layer #3 shall consist of non-woven polyester or 12-oz. structural fiberglass that is saturated with epoxy resins, forming a smooth interior wall to the host structure.

The standard impregnating resin for typical domestic wastewater sewer system liners is a modified Polyamide Bisphenol "A" Epichlorodhydrin system that is field applied. After the resin is applied, the liner is lowered into the manhole where it is cured in place with a temperature inversion system of air pressure and steam heat injection. Most liners are cured within two hours and become a structural monolithic wall bonded to the host structure. Other chemical and industrial applications may require alternate resin system depending on the site conditions and chemicals present in the structures. Owner shall supply analytical report of any known chemicals present in wastewater to Installer. Resin system used in these cases is determined on a case-by-case basis.

1.8 Liner Installation and Curing Process

(1) Application procedures shall conform to the recommendations of the Liner System manufacturer, including material handling, mixing, and environmental controls during installation safety, and equipment.
(2) The Liner System installation equipment shall be specifically designed to accurately install the specified Liner System and shall be regularly maintained and in proper working order.
(3) A Certified Installer of the Liner System manufacturer must install the Liner System.
(4) The Liner System shall be installed according to the Owner's requirements and manufacturer's recommendations.

Liner Installation: Liner is fully saturated at the job site with resin and then lowered into the structure to the pre-marked position at the cover seat of the structure entrance. The liner shall form a monolithic structure permanently connecting the ring & cover seat to the

chimney, corbel, walls and benches. Unless otherwise required, the liner will end at, but include, the bench. In cases where invert channel lining is required, the sewage flow must be stopped for a minimum period of 3 hours (subsidiary to item cost).

The Liner for manholes shall be pressurized at a minimum of 500 lbs. per square foot. However, most typical manhole liner installations will be pressurized at 750-1,000 lbs. per square foot, depending on the condition of the structure and the amount of hydrostatic pressure from incoming infiltration.

Curing Process: Once liner is in place, structure is heated by a temperature inversion system of pressurization with steam injection into the high velocity hot air column, creating a steam/convection oven atmosphere to create a liner temperature of approximately 150°-190° F. The liner is heated for an estimated one to three hours curing time according to the size and temperature of the structure. Upon completion of the liner curing process, the inflation bladder shall be removed, all lines reopened and the excess liner cut off at the manhole cover seat or structure opening.

1.9 Testing, Sampling and Inspection

(1) A recognized independent testing laboratory shall test materials used on the project in accordance with ASTM Specifications as referred to in 500-1.3. The Manufacturer, instead of an independent laboratory, may test project sample specimens, provided the

Owner, Engineer, and Manufacturer are in agreement of this testing method prior to project commencement. Specific materials recommended by the Engineer shall then be tested.

(2) All manholes rehabilitated with a specified Liner System shall be tested by the contractor and at the contractor's expense.

(3) Acceptable testing methods include air testing, pull tests and core sampling and testing.

(4) Manholes to be tested and testing methods to be used will be at the discretion of the Engineer and shall be considered subsidiary to the manhole lining cost.

1.10 Warranty

(1) Liner systems (fabrics and resins) shall be warranted to be free of defects in materials and workmanship, to prevent infiltration, prohibit root intrusion and provide a surface coating resistant to sewer gases and chemicals typically found in domestic sewer collection systems.

(2) Contractor shall warrant all work against defects in materials for a period of ten years and workmanship for a period of five years for repair or replacement of the liner as needed.

(3) Applicator shall, within a reasonable time after receipt of written notice thereof, repair defects in material or workmanship which may develop during warranty period, and any damage to other work caused by such defects or the repairing of same, at their own expense and without cost to the Owner.

1.11 Measurement and Payment:

Payment shall be made per square foot (SQFT) installed. Measurement shall be based on Installer field inspection of each manhole and selected Liner System, as approved by the Owner.

MANHOLE FRAME-CHIMNEY SEALING
(Mechanical Seal for Rehabilitation)

1 INTENT:

The intent of this section is to provide non-structural rehabilitation of manholes suffering from deterioration and/or offset in the frame chimney area resulting in inflow/infiltration. The rehabilitation shall be accomplished via the installation of a mechanical frame-chimney seal and extension system.

2 SCOPE:

This specification includes the materials and procedures required for the internal sealing of the frame-chimney area of brick, block and precast manholes. The manholes to receive internal frame-chimney seals are listed in the attached table and are shown on the enclosed system maps.

A. **Internal Manhole Frame-Chimney Seals**, meeting the requirements of this specification, shall be installed in all manholes identified in this project. If excavation is required to repair, rebuild, or replace a manhole, or if any manhole linings or coatings are required, the seal shall be installed after that work has been completed. It shall be the responsibility of the manhole coating/lining CONTRACTOR to provide an adequate sealing area as detailed in this specification prior to applying the coating or lining material.

B. **Brick or Block Manholes** - An internal frame-chimney seal, meeting the requirements of this specification, shall be used to seal the frame-chimney joint area of the manhole from the bottom 2 inches of the frame casting to the second or third level of brick or block courses of the manhole chimney.

C. **Precast Manholes** – An internal frame-chimney seal, and where required, an overlapping extension or extensions, meeting the requirements of this specification, shall be used to seal the entire adjustment area of the manhole. The seal and extension or extensions shall extend from the bottom 2 inches of the frame casting down to the top 2 inches of the manhole cone.

2.1 DEFINITIONS:

A. **Chimney** - The cylindrical variable height portion of the manhole structure used to support and adjust the finished grade of the manhole frame. The chimney extends from the top of the corbel or cone to the base of the manhole frame casting. Materials typically used to construct the adjustment area of the manhole are precast rings, HDPE rings, rubber rings, brick and block.

B. **Cone or Corbel** - That portion of the manhole structure which slopes upward and inward from the main body of the manhole to the required chimney or frame casting diameter. "Corbel" refers to a section built of brick or block, while "cone" refers to a precast concrete section.

C. **Pre-Approved Equal** - A product that meets the material, performance and design life requirements of this specification and has been approved by the ENGINEER for use on this project a minimum of 7 calendar days prior to bid opening.

2.2 SYSTEM DESCRIPTION:

A. **Design Requirements** - The manhole frame-chimney seal shall be designed to provide a watertight seal in the above described portions of the manhole throughout a 25 year design life. The seal system shall have the capability to be installed in manholes with a diameter differential of up to 20% between the frame casting and manhole chimney or cone.

B. **Performance Requirements** – The frame-chimney seal shall prevent the leakage of water into the manhole at the joints between the frame casting and manhole cone/corbel. Leakage shall be construed to mean freely dripping water emanating at the interface between the seal and the manhole frame casting and cone/corbel or through the body of the seal itself. Moisture appearing at random locations in the form of patches or beads adhering to the surfaces shall not be construed as leakage. The seal shall remain flexible and have the capability to withstand repeated vertical movement of the frame casting of not less than 2 inches and/or repeated horizontal movement of not less than 1/2 inch after installation and throughout its design life.

2.3 SUBMITTALS:

A. **Test Report** - A test report from an independent testing agency stating that the seal meets the performance requirements of Section 2.2 B, shall be provided to the ENGINEER by each frame-chimney seal manufacturer or supplier.

B. **Certification** - The manufacturer of the frame-chimney seal shall submit a certification to the ENGINEER stating that their product meets the design life requirements of Section 2.2 A, and the material requirements of Section 3.1, A & B.

2.4 TESTING & ACCEPTANCE:

A. **Acceptance Testing** - Manhole frame-chimney seals shall be visually inspected after installation for proper positioning, tightness against the manhole and frame casting surfaces, that no voids or visible leakage points exist and that the bands have been locked into place. Any seal or seals failing this test shall be reworked and inspected at no additional expense to the OWNER.

The ENGINEER reserves the right to water test random frame-chimney seals for leakage using a method approved by the ENGINEER. A minimum of 10 percent of the sealed manholes shall be tested. Manholes that fail shall be reworked and retested by the CONTRACTOR at no additional expense to the OWNER. If more than 5 percent of the manholes tested fail the initial test, an additional 10 percent of the sealed manholes shall be tested. This process shall continue until the testing is satisfactory, or until all sealed manholes have been tested.

3 PRODUCTS:

3.1 Frame-Chimney Seal:

Frame-chimney seals shall consist of a flexible rubber sleeve, extension or extensions and stainless steel expansion bands, all conforming to the following requirements.

A. **Rubber Sleeve and Extension** - The flexible rubber sleeve and extension shall be molded or extruded from a high grade rubber compound, such as Polyisoprene or EPDM, conforming to the material requirements of ASTM C-923.

The sleeve shall be corrugated with a minimum unexpanded vertical height of 8 inches or 10 inches and a minimum thickness of 3/16 inches. The upper and lower sections of the sleeve that compress against the frame casting and manhole chimney or cone shall have an expansion band recess capable of restraining the band during expansion and after installation.

The top section of the extension shall have a minimum thickness of 3/32 inches and shall be shaped to fit behind the sealing area of the rubber sleeve under the expansion band recess area. The remainder of the extension shall meet the material requirements of ASTM C-923. The bottom section of the extension shall contain an expansion band recess matching the rubber sleeve.

B. **Expansion Bands** - The expansion bands used to compress the sleeve against the manhole shall be integrally formed from 16 gauge stainless steel conforming to ASTM C-923, Type 304 or 316, with no permanent welded attachments and shall have a minimum width of 1 inch and a maximum width of 1-3/8 inches.

The expansion bands shall have a minimum adjustment range of 2-1/2 diameter inches. Any tool used to expand the band shall have the capacity to develop the necessary force to provide compression of the rubber sleeve and a watertight seal. Once tight, the band shall remain permanently held in this expanded position with a latching mechanism that engages in one of the slots in the overlapping end of the band.

C. **Acceptable Manufacturers**

1. NPC, Inc.
2. Pre-Approved Equal

3.2 Equipment:

The CONTRACTOR shall have the manufacturer's recommended installation tool as well as any other equipment or tools required to install the frame-chimney seals.

3.3 Repair Mortar:

Repair mortar shall be a single component, ready to use with water, high strength, non-shrink, polymer modified cementitious patching mortar for vertical or overhead use. It shall not contain calcium chloride, added gypsum, metallic particles, lime or high alumina cements. Repair mortar shall have the following minimum requirements:

Compressive Strength	ASTM C-109	1 day	2800 psi
		7 day	4600 psi
		28 day	5800 psi
Flexural Strength	ASTM C-348	1 day	600 psi
		7 day	750 psi
		28 day	900 psi
	ASTM C-78	28 day	1500 psi
Slant Shear Bond Strength	ASTM C-882	7 day	1190 psi
		28 day	1640 psi

3.4 Cementitious Grout:

Cementitious grout shall be a premixed, non-metallic, controlled expansion, high strength, versatile non-shrink grout meeting the requirements of CRD-C-588-70, CRD-C-621-81, ASTM C-827-82 and ASTM C-191-79. When mixed to a mortar or "plastic" consistency, it shall have minimum one day compressive strength of 6,000 psi and a 28 day compressive strength of 9,000 psi.

4 EXECUTION:

All work to be performed shall be in strict accordance with the ENGINEER’s specifications and recommendations, including installation and application of all products as required and in accordance with the manufacturer’s recommended instructions.

4.1 Field Measurements:

The CONTRACTOR shall be responsible for field measuring each manhole to determine the information required on the manufacturer's "Manhole Measurement Worksheet”. This information is required to determine the proper size rubber sleeve, the need for and size of any extensions and the size and number of expansion bands required to complete the installation.

4.2 Surface Preparation:

The CONTRACTOR shall inspect the areas of the frame casting for rust, scale or debris and the manhole chimney and cone area for any loose or protruding mortar, brick or concrete that would interfere with the installation of the seal and remove any rust, scale or dirt from the inside area of the manhole frame casting and clean the chimney and or cone/corbel area by wire brushing. The CONTRACTOR shall be responsible to ensure all surfaces under the sealing area behind the expansion bands be reasonably smooth, circular, vertical and free of any defects that would prevent the rubber sleeve from achieving a watertight seal. Repair mortar meeting the requirements of Section 3.3 shall be used to repair any defects and provide a 2 inch to 3 inch wide vertical surface for the sleeve and/or extension to compress against. All surface preparation shall be in accordance with the frame-chimney seal manufacturer's recommended instructions.

4.3 Realign Manhole Frame Casting:

All manhole frame castings that are misaligned from the chimney or cone/corbel by 3 inches or more shall be excavated and realigned. It shall be the responsibility of the CONTRACTOR to ensure all existing frame castings be thoroughly cleaned before reinstallation. The frame casting shall be set in a bed

of cementitious grout that meets the requirements of Section 3.4, mixed to a mortar or “plastic” consistency. The frame casting shall be set so that the top of the cover is flush with the existing pavement or ground surface.

4.4 Installation of Frame-Chimney Seal:

The internal frame-chimney seals and/or extensions shall be installed in accordance with the manufacturer's recommended instructions.

5 MEASUREMENT & PAYMENT:

5.1 Manhole Frame-Chimney Seal:

This item shall be paid at the unit price bid per manhole frame-chimney seal and shall include the cost of furnishing and installing an internal frame-chimney seal and all the required surface preparation work needed to achieve a watertight installation. Measurement shall be based on the actual number of seals installed.

5.2 Manhole Frame-Chimney Seal Extension:

This item shall be paid at the unit price bid per manhole frame-chimney seal extension and shall include the cost of furnishing and installing an internal frame-chimney seal extension and all the required surface preparation work needed to achieve a watertight installation. Measurement shall be based on the actual number of extensions installed.

5.3 Realign Manhole Frame Casting:

A. **Paved Areas** - This item shall be paid at the unit price bid for frame casting realignment-paved, and shall include the cost of all saw cutting, pavement removal and disposal, excavation, removal, cleaning and reinstallation of the existing frame casting, backfill and pavement replacement.

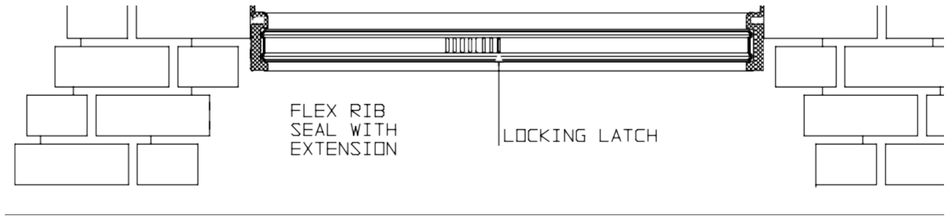
B. **Unpaved Areas** - This item shall be paid at the unit price bid for frame casting realignment- unpaved, and shall include the cost of excavation, removal, cleaning and reinstallation of the existing frame casting, backfill and surface restoration.

Measurement of each item shall be based on the actual number of each type of frame casting realignment.

NOTES:

1. The frame casting must have a minimum 2 inch wide vertical surface for the seal to compress against. Repair mortar meeting the requirements of Section 3.3 shall be used to prepare a 2 to 3 inch wide vertical surface for the lower sealing area of the sleeve and/or extension to compress against.
2. The rubber sleeve and extension are available in sizes and widths that will accommodate diameter differentials and variable adjustment heights. Please refer to the **Seal Selection Table** below for material selection. It is not recommended that more than one seal and extension be used in a typical brick manhole.
3. Each seal comes with two stainless steel expansion bands and each extension comes with one stainless steel band.
4. Diameter differentials and offsets reduce the effective height of the seal or extension.

Seal Selection Table



BRICK CORBEL ADJUSTMENT CHIMNEY

WITH INTERNAL FLEX RIB SEAL

Height of Brick	Seal Width & Quantity	Extension Quantity Required
0 – 5 inches	1 – 8.5” Wide Seal	None Required
2 – 7 inches	1 – 10.5” Wide Seal	None Required
5 – 13 inches	1 – 8.5” Wide Seal	1 – Extension Seal

Section O

EXTERNAL SEWER SERVICE CONNECTION TO CURED-IN-PLACE PIPE USING A SADDLE TEE

1. GENERAL INFORMATION

a. **Intent** - This specification covers the installation procedures for connecting a service to an existing sewer pipe that has previously been reconstructed with cured-in-place-pipe.

b. **Reference specifications** - This specification references American Society for Testing and Materials (ASTM) standards which are made a part hereof by such reference and shall be the latest edition and revision thereof.

2. MATERIALS

a. **Saddle Tee**: PVC strap-on as per ASTM D 3034, or equal

3. EXECUTION

a. **Safety** - The installer shall carry out his operation in strict accordance with all applicable OSHA standards.

b. **Installation** - Three installation conditions will be presented; 1) existing host pipe in poor condition; 2) existing host pipe in good condition; 3) existing host pipe is PVC

1. **Existing Host Pipe in Poor Condition**
A portion of the existing sewer shall be removed to expose the cured-in-place- pipe (CIPP) and to provide adequate working space for making the new service connections.

Service laterals shall be connected to the CIPP using saddle tees. Use the inside diameter of the saddle to mark a hole on the CIPP. Cut a hole to the desired diameter using a hole saw of that dimension. Insert a neoprene gasket, or equal, between the CIPP and the saddle tee. Secure the saddle to the pipe with stainless steel bands. Install the service lateral as specified by the pipe manufacturer. Prior to backfilling, encase the exposed connection with at least 6 inches of concrete.

2. **Existing Host Pipe is in Good Condition**
A smooth, round hole shall be machine-drilled into the existing pipe and CIPP using a hole saw. A tap shall be bonded to the existing pipe with an epoxy joint material as recommended by the tap manufacturer. If immediate backfill is required, the tap should be strapped in place as recommended by the manufacturer.

3. **Existing host pipe is PVC**
Service laterals shall be connected to the existing pipe using saddle tees. Use the inside diameter of the saddle to mark a hole in the existing pipe.

Cut the hole to the desired diameter using a hole saw of the appropriate size. Apply PVC glue or equal to the mating surface of the pipe and saddle and the surface of the hole at the CIPP and existing pipe. A neoprene gasket or equal shall be inserted between the existing pipe and the saddle. Secure the saddle to the pipe with stainless steel bands.

Section P

Fusible Polyvinylchloride Pipe for Installation by Horizontal Directional Drilling

GENERAL

Scope

This section specifies fusible polyvinylchloride pipe, including standards for dimensionality, testing, quality, acceptable fusion practice, safe handling, storage and installation of the pipe by horizontal directional drilling, directional boring, or guided boring.

Requirements

Contractor shall provide fusible polyvinylchloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification for installation by horizontal directional drilling.

Contractor shall be responsible for all installation processes and procedures associated with the installation by horizontal directional drilling in accordance with this specification.

Pipe Description

Pipe Supplier shall furnish fusible polyvinylchloride pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification.

Pipe shall conform to the following dimensionality and general characteristics table:

Pipe Description	**Nominal Diameter (in.)**	**DR**	**Color**	**Pressure Class (psi)**	**Required Inner Diameter (in.)**

Quality Assurance

The requirements set forth in this document specify a wide range of procedural precautions necessary to ensure that the very basic, essential aspects of a proper directional bore installation are adequately controlled. Strict adherence shall be required under specifically covered conditions outlined in this specification. Adherence to the specifications contained herein, or the Representative's approval on any aspect of any directional bore operation covered by this specification, shall in no way relieve the Contractor of their ultimate responsibility for the satisfactory completion of the work authorized under the Contract.

References:

This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those other standards are included as references under this section as if referenced directly.
In the event of a conflict between the requirements of this section and those of the listed

documents, the requirements of this section shall prevail.

Unless otherwise specified, references to documents shall mean the documents in effect at the time of design, bid, or construction, whichever is earliest. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.

Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI/AWWA C110/A21.10	American National Standard for Ductile-Iron and Gray-Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids
ANSI/AWWA C111/A21.11	American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
ANSI/AWWA C153/A21.53	AWWA Standard for Ductile-Iron Compact Fittings for Water Service
AWWA C605	Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
AWWA C651	Standard for Disinfecting Water Mains
AWWA C900	Standard for Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 in. through 12 in. (100mm Through 300mm), for Water Distribution
AWWA C905	Standard for Polyvinyl Chloride (PVC Pressure Pipe and Fabricated Fittings, 14 in. through 48 in. (350mm Through 1200mm), for Water Distribution and Transmission
AWWA M23	AWWA Manual of Supply Practices PVC Pipe—Design and Installation, Second Edition
ASTM C923	Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals
ASTM D1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2152	Test Method for Degree of Fusion of Extruded Poly(Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
ASTM D2241	Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR)
ASTM D2665	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
ASTM D3034	Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings

Reference	Title
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F679	Standard Specification for Poly(Vinyl Chloride) (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings
ASTM F1057	Standard Practice for Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique
ASTM F1417	Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
UNI-B-6	Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe
UNI-PUB-08	Tapping Guide for PVC Pressure Pipe
NSF-14	Plastics Piping System Components and Related Materials
NSF-61	Drinking Water System Components--Health Effects
PPI TR-2	PVC Range Composition Listing of Qualified Ingredients

Manufacturer's Requirements

All piping shall be made from PVC compound conforming to cell classification 12454 per ASTM D1784.

Fusion Technician Requirements

Fusion Technician shall be fully qualified by the pipe supplier to install fusible polyvinylchloride pipe of the type(s) and size(s) being used. Qualification shall be current as of the actual date of fusion performance on the project.

Specified Pipe Suppliers

Fusible polyvinylchloride pipe shall be used as manufactured under the trade names Fusible C-900®, Fusible C-905®, and FPVC®, for Underground Solutions, Inc., Poway, CA, (858) 679-9551. Fusion process shall be as patented by Underground Solutions, Inc., Poway, CA, Patent No. 6,982,051. Owner and engineer are aware of no other supplier of fusible polyvinylchloride pipe that is an equal to this specified pipe supplier and products.

Warranty

The pipe shall be warranted for one year per the pipe supplier's standard terms.

In addition to the standard pipe warranty, the fusion services shall be warranted for one year per the fusion service provider's standard terms.

Pre-Construction Submittals

The following PRODUCT DATA is required from the pipe supplier and/or fusion provider:

Pipe Size

Dimensionality

Pressure Class per applicable standard

Color

Recommended Minimum Bending Radius

Recommended Maximum Safe Pull Force

Fusion technician qualification indicating conformance with this specification

The following WORK PLAN AND INFORMATION is required from the contractor and/or horizontal directional drilling Contractor. This WORK PLAN AND INFORMATION shall also be supplied to the pipe supplier, should it be requested:

Work plan shall include for each HDD installation any excavation locations and dimensions, interfering utilities, bore dimensions and locations including bend radii used, and traffic control schematics.

A project safety and contingency plan which shall include but shall not be limited to drilling fluid containment and cleanup procedures, equipment and plan for compromised utility installations including electrical and power lines, water, wastewater and any other subsurface utility in the area.

An HDD schedule identifying daily work hours and working dates for each installation.

Post-Construction Submittals

The following AS-RECORDED DATA is required from the contractor and/or fusion provider to the owner or pipe supplier upon request:

Approved datalogger device reports

Fusion joint documentation containing the following information:

Pipe Size and Thickness

Machine Size

Fusion Technician Identification

Job Identification

Fusion Joint Number

Fusion, Heating, and Drag Pressure Settings

Heat Plate Temperature

Time Stamp

Heating and Cool Down Time of Fusion

Ambient Temperature

As-recorded Information

The as-recorded plan and profile will reflect the actual installed alignment, and reflect the horizontal offset from the baseline and depth of cover.

All fittings, valves, or other appurtenances will also be referenced and shown.

A daily project log, along with tracking log sheets, should they be used, shall be provided. Tracking log sheet data, should it be employed, shall include any and all that apply, including inclination, depth, azimuth, and hydraulic pull-back and rotational force measured.

Products

Fusible Polyvinylchloride Pressure Pipe for Potable Water

Fusible polyvinylchloride pipe shall conform to AWWA C900, AWWA C905, ASTM D2241 or ASTM D1785 for standard dimensions, as applicable. Testing shall be in accordance with the referenced AWWA standards for all pipe types.

Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

Fusible polyvinylchloride pipe shall be manufactured in a standard 40' nominal length, or custom lengths as specified.

Fusible polyvinylchloride pipe shall be blue in color for potable water use.

Pipe shall be marked as follows:

Nominal pipe size

PVC

Dimension Ratio, Standard Dimension Ratio, or Schedule

AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable

AWWA standard designation number, or pipe type for non-AWWA pipe, as applicable

NSF-61 mark verifying suitability for potable water service

Extrusion production-record code

Trademark or trade name

Cell Classification 12454 and/or PVC material code 1120 may also be included

Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

Fusible Polyvinylchloride Pressure Pipe Not Conforming to AWWA C905 Dimensionality

Fusible polyvinylchloride pipe shall conform to AWWA C900, ASTM D2241 or ASTM D1785 for standard dimensionality, as applicable. Testing shall be in accordance with the referenced AWWA standard.

Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

Fusible polyvinylchloride pipe shall be manufactured in a standard 40' nominal length, or custom lengths as specified.

Fusible polyvinylchloride pipe shall be purple in color for reclaim, reuse, or other non-potable water distribution or conveyance.

Pipe shall be marked as follows:

Nominal pipe size

PVC

Dimension Ratio, Standard Dimension Ratio, or Schedule

AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable

AWWA standard designation number, or pipe type for non-AWWA pipe, as applicable

Extrusion production-record code

Trademark or trade name

Cell Classification 12454 and/or PVC material code 1120 may also be included

For reclaim water service, the wording: "Reclaimed Water, NOT for Potable Use"

Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

Fusible Polyvinylchloride Pressure Pipe Conforming to AWWA C905 Dimensionality

Fusible polyvinylchloride pipe shall conform to AWWA C905 standard.

Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

Fusible polyvinylchloride pipe shall be manufactured in a standard 40' nominal length, or custom lengths as specified.

Fusible polyvinylchloride pipe shall be purple in color for reclaim, reuse, or other non-potable water distribution or conveyance.

Pipe shall be marked as follows:

Nominal pipe size

PVC

Dimension Ratio, Standard Dimension Ratio, or Schedule

AWWA pressure class

AWWA standard designation number

Extrusion production-record code

Trademark or trade name

Cell Classification 12454 and/or PVC material code 1120 may also be included

For reclaim water service, the wording: "Reclaimed Water, NOT for Potable Use"

Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

Fusible Polyvinylchloride Pressure Pipe for Wastewater Not Conforming to AWWA C905 Dimensionality

Fusible polyvinylchloride pipe shall conform to AWWA C900, ASTM D2241 or ASTM D1785 for standard dimensionality, as applicable. Testing shall be in accordance with the referenced AWWA standard.

Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

Fusible polyvinylchloride pipe shall be manufactured in a standard 40’ nominal length, or custom lengths as specified.

Fusible polyvinylchloride pipe shall be green in color for wastewater use.

Pipe shall be marked as follows:

Nominal pipe size

PVC

Dimension Ratio, Standard Dimension Ratio, or Schedule

AWWA pressure class, or standard pressure rating for non-AWWA pipe, as applicable

AWWA standard designation number, or pipe type for non-AWWA pipe, as applicable

Extrusion production-record code

Trademark or trade name

Cell Classification 12454 and/or PVC material code 1120 may also be included

Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

Fusible Polyvinylchloride Pressure Pipe for Wastewater Conforming to AWWA C905 Dimensionality

Fusible polyvinylchloride pipe shall conform to AWWA C905 standard.

Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

Fusible polyvinylchloride pipe shall be manufactured in a standard 40’ nominal length, or custom lengths as specified.

Fusible polyvinylchloride pipe shall be green in color for wastewater use.

Pipe shall be marked as follows:

Nominal pipe size

PVC

Dimension Ratio, Standard Dimension Ratio, or Schedule

AWWA pressure class

AWWA standard designation number

Extrusion production-record code

Trademark or trade name

Cell Classification 12454 and/or PVC material code 1120 may also be included

Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

Fusible Polyvinylchloride Non-Pressure Pipe for Wastewater or Surface Water

Fusible polyvinylchloride pipe shall conform to ASTM D3034 or ASTM F679.

Fusible polyvinylchloride pipe may instead conform to AWWA C900 or AWWA C905, ASTM D2241 or ASTM D1785 for standard dimensionality, as applicable.

Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

Fusible polyvinylchloride pipe shall be manufactured in a standard 40′ nominal length, or custom lengths as specified.

Fusible polyvinylchloride pipe shall be green in color for wastewater use. Fusible polyvinylchloride pipe shall be white in color for surface or storm water use.

Pipe shall be marked as follows:

Nominal pipe size

PVC

Dimension Ratio, Standard Dimension Ratio, or Schedule

Pressure class or standard pressure rating

Standard designation number or pipe type

Extrusion production-record code

Trademark or trade name

Cell Classification 12454 and/or PVC material code 1120 may also be included

Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

Fusion Joints

Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed as described in this specification.

Connections and Fittings for Pressure Applications

Connections shall be defined in conjunction with the coupling of project piping, DUCTILE IRON MECHANICAL AND FLANGED FITTINGS

Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard ductile iron fittings conforming to AWWA/ANSI C110/A21.10, or AWWA/ANSI C153/A21.53 and AWWA/ANSI C111/A21.11.

Connections to fusible polyvinylchloride pipe may be made using a restrained or non-restrained retainer gland product for PVC pipe, as well as for MJ or flanged fittings.

Bends, tees and other ductile iron fittings shall be restrained with the use of thrust blocking or other means as indicated in the construction documents.

Ductile iron fittings and glands must be installed per the manufacturer's guidelines.

If required, linings for Ductile Iron fittings shall meet the following requirements for the following service environments:

Wastewater:

Ceramic Epoxy shall be Tnemec Perma-Shield 431.

Polyurethane shall be DuraShield 210 or 310.

Potable Water:

Liquid Epoxy shall be 100% solids liquid epoxy, Tnemec Epoxyline Series FC22.

Polyurethane shall be DuraShield 210-61 or 310-61.

If required, coatings for Ductile Iron fittings shall meet the following requirements for buried and/or immersion service duty:

Polyurethane shall be DuraShield 210 or 310.

Liquid Epoxy shall be 100% solids liquid epoxy, Tnemec Epoxyline Series FC22.

Coal tar epoxy shall be Sherwin Williams Targuard.

PVC Gasketed, Push-On Fittings

Acceptable fittings for use with fusible polyvinylchloride pipe shall include standard PVC pressure fittings conforming to AWWA C900 or AWWA C905.

Acceptable fittings for use joining fusible polyvinylchloride pipe other sections of fusible polyvinylchloride pipe or other sections of PVC pipe shall include gasketed PVC, push-on type couplings and fittings, including bends, tees, and couplings as shown in the drawings.

Bends, tees and other PVC fittings shall be restrained with the use of thrust blocking or other restraint products as indicated in the construction documents.

PVC gasketed, push-on fittings and mechanical restraints, if used, must be installed per the manufacturer's guidelines.

Fusible Polyvinyl Chloride Sweeps or Bends

Fusible polyvinyl chloride sweeps or bends shall conform to the same sizing convention, diameter, dimensional tolerances and pressure class of the pipe being joined using the sweep or bend.

Fusible polyvinyl chloride sweeps or bends shall be manufactured from the same fusible polyvinyl chloride pipe being used for the installation, and shall have at least 2 feet of straight section on either end of the sweep or bend to allow for fusion of the sweep to the pipe installation. There shall be no gasketed connections utilized with a fusible polyvinyl chloride sweep.

Standard fusible polyvinyl chloride sweep or bend angles shall not be greater than 22.5 degrees, and shall be used in nominal diameters ranging from 4 inch through 16 inch.

Sleeve-Type Couplings

Sleeve-type mechanical couplings shall be manufactured for use with PVC pressure pipe, and may be restrained or unrestrained as indicated in the construction documents.

Sleeve-type couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

Expansion and Flexible Couplings

Expansion-type mechanical couplings shall be manufactured for use with PVC pipe, and may be restrained or unrestrained as indicated in the construction documents.

Expansion-type mechanical couplings shall be rated at the same or greater pressure carrying capacity as the pipe itself.

Connection Hardware

Bolts and nuts for buried service shall be made of non-corrosive, high-strength, low-alloy steel having the characteristics specified in ANSI/AWWA C111/A21.11, regardless of any other protective coating.

Connections for Gravity Sanitary Sewer and Non-Pressure Applications

The following connections are to be used in conjunction with tie-ins to other non-pressure, gravity sewer piping and/or structures, and shall be as indicated in the construction documents.

PVC Gasketed, Push-On Couplings

Acceptable couplings for joining fusible polyvinylchloride pipe to other sections of fusible polyvinylchloride pipe or other sections of PVC pipe shall include gasketed PVC, push-on type couplings as indicated in the construction documents.

PVC gasketed, push-on fittings and/or restraint hardware must be installed per the manufacturer's guidelines.

Connection to Sanitary Sewer Manholes and Structures

Fusible polyvinylchloride pipe shall be connected to manholes and other structures to provide a leak-free, properly graded flow into or out of the manhole or structure.

Connections to existing manholes and structures shall be as indicated in the construction documents.

For a cored or drilled opening provide a flexible, watertight connection that meets and/or exceeds ASTM C923.

For a knock out opening, provide a watertight connection (waterstop or other method) meeting the material requirements of ASTM C923 that is securely attached to the pipe with stainless steel bands or other means.

Grout opening in manhole wall with non-shrink grout. Pour concrete collar around pipe and outside manhole opening. Provide flexible pipe joint or flexible connector within 2 feet of the collar.

Connections to a new manhole or structure shall be as indicated in the construction documents.

A flexible, watertight gasket per ASTM C 923 shall be cast integrally with riser section(s) for all precast manhole and structures.

Drop connections shall be required where shown on drawings.

Grout internal joint space with non-shrink grout.

Drilling System Equipment

General

The directional drilling equipment, as a minimum, shall consist of a directional drilling rig of sufficient capacity to perform the bore(s) and pull-back of the pipe(s), a drilling fluid mixing & delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations, and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project. All required equipment shall be included in the emergency and contingency plan as submitted per these specifications.

Drilling Rig

The directional drilling machine shall consist of a hydraulically powered system to rotate, push and pull drill pipe while delivering a pressurized fluid mixture to a drill head. The machine shall be anchored to withstand the pulling, pushing and rotating forces required to complete the project.

The drilling rig hydraulic system shall be of sufficient pressure and volume to power drilling operations. The hydraulic system shall be free from leaks.

The drilling rig shall have a system to monitor pull-back hydraulic pressure during pull-back operations.

Drill Head

The horizontal directional drilling equipment shall produce a stable fluid lined tunnel with the use of a steer-able drill head and any subsequent pre-reaming heads.

The system must be able to control the depth and direction of the drilling operation.

Drill head shall contain all necessary cutters and fluid jets for the operation, and shall be of the appropriate design for the ground medium being drilled.

Drilling Fluid (Drilling Mud)

Drilling fluid shall be composed of clean water and the appropriate additive(s) for the fluid to be used. Water shall be from a clean source and shall meet the mixing requirements of the mixture manufacturer(s).

The water and additives shall be mixed thoroughly to assure the absence of any clumps or clods. No hazardous additives may be used.

Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of bore wall(s).

Drilling fluid shall be disposed of off-site in accordance with local, state and federal requirements and/or permit conditions.

No additional chemicals or polymer surfactants shall be allowed to be added to the drilling fluid unless they have been submitted per this specification.

Mixing System

A drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid for the project.

The mixing system shall be able to ensure thorough mixing of the drilling fluid. The drilling fluid reservoir tank shall be sized for adequate storage of the fluid.

The mixing system shall continually agitate the drilling fluid during drilling operations.

Drilling Fluid Delivery and Recovery System

The drilling fluid pumping system shall have a minimum capacity to supply drilling fluid in accordance with the drilling equipment pull-back rating at a constant required pressure.

The delivery system shall have filters or other appropriate in-line equipment to prevent solids from being pumped into the drill pipe.

Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and properly disposed of. The use of spill containment measures shall be maintained around drill rigs, drilling fluid mixing system, entry and exit pits and drilling fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps, vacuum truck(s), and/or storage of sufficient size shall be in place to contain excess drilling fluid.

A closed-loop drilling fluid system and a drilling fluid cleaning system should be used to whatever extent practical, depending upon project size and conditions. Under no circumstances shall drilling fluid that has escaped containment be reused in the drilling system.

Drilling Control System

Calibration of the electronic detection and control system shall be verified prior to the start of the bore.

The drilling head shall be remotely steer-able by means of an electronic, magnetic or inertial detection system. The drilling head location shall be monitored in three dimensions:

Offset from the baseline,

Distance along the baseline, and

Depth of cover.

Point of rotation of the head shall also be monitored.

For gravity application and on-grade drilling, sonde/beacon or approved equipment applicable for grade increments of 1/10th of one percent shall be used.

Pipe Pull Heads

Pipe pull heads shall be utilized that employ a positive through-bolt design assuring a smooth wall against the pipe cross-section at all times.

Pipe pull heads shall be specifically designed for use with fusible polyvinylchloride pipe, and shall be as recommended by the pipe supplier.

Pipe Rollers

Pipe rollers, if required, shall be of sufficient size to fully support the weight of the pipe during handling and pullback operations.

A sufficient quantity of rollers and spacing, per the pipe supplier's guidelines shall be used to assure adequate support and excessive sagging of the product pipe.

Execution

Delivery and Off Loading

All pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the owner or engineer.

Each pipe shipment should be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Notify owner or engineer immediately if more than immaterial damage is found. Each pipe shipment should be checked for quantity and proper pipe size, color, and type.

Pipe should be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.

Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.

During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.

If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to ensure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped, from trucks.

Handling and Storage

Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the owner or engineer.

Any scratch or gouge greater than 10% of the wall thickness will be considered significant and can be rejected unless determined acceptable by the owner or engineer.

Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the ends of the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.

Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.

If pipe is to be stored for periods of 1 year or longer, the pipe should be shaded or otherwise shielded from direct sunlight. Covering of the pipe which allows for temperature build-up is strictly prohibited. Pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excess heat accumulation.

Pipe shall be stored and stacked per the pipe supplier's guidelines.

Fusion Process

General

Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.

Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.

Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine.

Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process. Fusion machines must incorporate the following elements:

Heat Plate - Heat plates shall be in good condition with no deep gouges or scratches. Plates shall be clean and free of any debris or contamination. Heater controls shall function properly; cord and plug shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of pipe being fused, per the pipe supplier's guidelines.

Carriage – Carriage shall travel smoothly with no binding at less than 50 psi. Jaws shall be in good condition with proper inserts for the pipe size being fused. Insert pins shall be installed with no interference to carriage travel.

General Machine - Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.

Data Logging Device – An approved datalogging device with the current version of the pipe supplier's recommended and compatible software shall be used. Datalogging device operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110V power source shall be available to extend battery life.

Other equipment specifically required for the fusion process shall include the following:

Pipe rollers shall be used for support of pipe to either side of the machine.

A weather protection canopy that allows full machine motion of the heat plate, fusion assembly and carriage shall be provided for fusion in inclement, extreme temperatures, and /or windy weather, per the pipe supplier's recommendations.

An infrared (IR) pyrometer for checking pipe and heat plate temperatures.

Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.

Facing blades specifically designed for cutting fusible polyvinylchloride pipe shall be used.

Joint Recording

Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine. The fusion data logging and joint report shall be generated by software developed specifically for the butt-fusion of fusible polyvinyl chloride pipe. The software shall register and/or record the parameters required by the pipe supplier and these specifications. Data not logged by the data logger shall be logged manually and be included in the Fusion Technician's joint report.

Drilling Operations

General

Bore path and alignment are as indicated in the contract documents. The path of the bore may be modified based on field and equipment conditions. Entry and exit locations and control-point elevations shall be maintained as indicated in the contract documents.

Bend radii shown in the contract documents are minimum allowable radii and shall not be reduced.

Location and Protection of Underground Utilities

Correct location of all underground utilities that may impact the HDD installation is the responsibility of the Contractor, regardless of any locations shown on the drawings or previous surveys completed.

Utility location and notification services shall be contacted by the Contractor prior to the start of construction.

All existing lines and underground utilities shall be positively identified, including exposing those facilities that are located within an envelope of possible impact of HDD installation as determined for the project specific site conditions. It is the Contractor and HDD system operator's responsibility to determine this envelope of safe offset from existing utilities. This will include, but is not limited to, soil conditions and layering, utility proximity and material, HDD system and equipment, and foreign subsurface material.

Site Location Preparation

Work site as indicated on drawings shall be graded or filled to provide a level working area. No alterations beyond what is required for operations are to be made

Contractor shall confine all activities to designated work areas.

Drilling Layout and Tolerances

The drill path shall be accurately surveyed with entry and exit areas placed in the appropriate locations within the areas indicated on drawings. If using a magnetic guidance system, drill path will be surveyed for any surface geomagnetic variations or anomalies.

Instrumentation shall be provided and maintained at all times that accurately locates the pilot hole, measures drill-string axial and torsional loads and measures drilling fluid discharge rate and pressure.

Entry and exit areas shall be drilled so as not to exceed the bending limitations of the pipe as recommended by the pipe supplier.

Pilot Bore Hole

Pilot hole shall be drilled along bore path. In the event that the pilot bore does deviate from the bore path, it may require contractor to pull-back and re-drill from the location along bore path before the deviation.

The Contractor shall limit curvature in any direction to reduce force on the pipe during pull-back. The minimum radius of curvature shall be no less than that specified by the pipe supplier and as indicated on the drawings.

Reaming

After successfully completing the pilot hole, the bore hole shall be reamed to a diameter which meets the requirements of the pipe being installed. The following table is offered as an estimated guide:

Nominal Pipe Diameter	**Bore Hole Diameter**
< 8 inches	Pipe Dia. + 4 inches
8 inches to 24 inches	Pipe Dia. X 1.5
> 24 inches	Pipe Dia. + 12 inches

Multiple reaming passes shall be used at the discretion of the Contractor and shall conform to this specification.

In the event of a drilling fluid fracture, returns loss or other loss of drilling fluid, the Contractor shall be responsible for restoring any damaged property to original condition and cleaning up the area in the vicinity of the damage or loss.

Pipe Pull-Back and Insertion

Pipe shall be fused prior to insertion, if the site and conditions allow, into one continuous length.

Contractor shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not bend past the pipe supplier's minimum allowable bend radius, buckle, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.

The pipe entry area shall be graded as needed to provide support for the pipe and to allow free movement into the bore hole.

The pipe shall be guided into the bore hole to avoid deformation of, or damage to, the pipe.

The fusible polyvinylchloride pipe may be continuously or partially supported on rollers or other

Owner and Engineer approved friction decreasing implement during joining and insertion, as long as the pipe is not over-stressed or critically abraded prior to, or during installation.

A swivel shall be used between the reaming head and the fusible polyvinylchloride pipe to minimize torsion stress on the pipe assembly.

Buoyancy modification shall be at the sole discretion of the Contractor, and shall not exceed the pipe supplier's guidelines in regards to maximum pull force or minimum bend radius of the pipe. Damage caused by buoyancy modifications shall be the responsibility of the Contractor.

Once pull-back operations have commenced, the operation shall continue without interruption until the pipe is completely pulled through the bore hole.

The pipe shall be installed in a manner that does not cause upheaval, settlement, cracking, or movement and distortion of surface features. Any damages caused by the Contractor's operations shall be corrected by the Contractor.

Installation Cleanup

Following the installation, the project site shall be returned to a condition equal to or better than the pre-construction condition of the site. All excavations will be backfilled and compacted per the construction documents and jurisdictional standards. All pavement and hardscape shall be repaired per applicable jurisdictional standards, excess materials shall be removed from the site, and disturbed areas shall be re-landscaped. All drilling fluid shall be properly disposed of per these specifications and all applicable jurisdictional laws.

Contractor shall verify that all utilities, structures, and surface features in the project area are sound.

Preparation Prior to Making Connections into Existing Piping Systems

Approximate locations for existing piping systems are shown in the construction documents. Prior to making connections into existing piping systems, the contractor shall:

Field verify location, size, piping material, and piping system of the existing pipe.

Obtain all required fittings, which may include saddles, sleeve type couplings, flanges, tees, or others as shown in the construction documents.

Have installed all temporary pumps and/or pipes in accordance with established connection plans.

Unless otherwise approved, new piping systems shall be completely assembled and successfully tested prior to making connections into existing pipe systems.

Pipe System Connections

Pipe connections shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines and as indicated in the construction documents. Pipe connections to structures shall be installed per applicable standards and regulations, as well as per the connection manufacturer's guidelines.

If possible, pipe installed via HDD shall be filled with water prior to making any connections to the existing system or other portions of the project.

Tapping for Potable and Non-Potable Water Applications

Tapping shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C605. Tapping shall be performed only with use of tap saddles or sleeves. NO DIRECT TAPPING WILL BE PERMITTED. Tapping shall be performed in accordance with the applicable sections for Saddle Tapping per Uni-Pub-8.

All connections requiring a larger diameter than that recommended by the pipe supplier, shall be made with a pipe connection as specified and indicated on the drawings.

Equipment used for tapping shall be made specifically for tapping PVC pipe:

Tapping bits shall be slotted "shell" style cutters, specifically made for PVC pipe. 'Hole saws' made for cutting wood, steel, ductile iron, or other materials are strictly prohibited.

Manually operated or power operated drilling machines may be used.

Taps may be performed while the pipeline is filled with water and under pressure ('wet' tap,) or when the pipeline is not filled with water and not under pressure ('dry' tap).

Testing

Testing shall comply with all applicable jurisdictional building codes, statutes, standards, regulations, and laws.

Hydrostatic Testing and Leakage Testing for Pressure Piping

Hydrostatic and leakage testing for piping systems that contain mechanical jointing as well as fused PVC jointing shall comply with AWWA C605.

Unless agreed to or otherwise designated by the owner or engineer, for a simultaneous hydrostatic and leakage test following installation, a pressure equal to 150% of working pressure at point of test, but not less than 125% of normal working pressure at highest elevation shall be applied. The duration of the pressure test shall be for two (2) hours.

If hydrostatic testing and leakage testing are performed at separate times, follow procedures as outlined in AWWA C605.

In preparation for pressure testing the following parameters must be followed:

All air must be vented from the pipeline prior to pressurization. This may be accomplished with the use of the air relief valves or corporation stop valves, vent piping in the testing hardware or end caps, or any other method which adequately allows air to escape the pipeline at all high points. Venting may also be accomplished by 'flushing' the pipeline in accordance with the parameters and procedures as described in AWWA C605.

The pipeline must be fully restrained prior to pressurization. This includes complete installation of all mechanical restraints per the restraint manufacturer's guidelines, whether permanent or temporary to the final installation. This also includes the installation and curing of any and all required thrust blocking. All appurtenances included in the pressure test, including valves, blow-offs, and air-relief valves shall be checked for proper installation and restraint prior to beginning the test.

Temporary pipeline alignments that are being tested, such as those that are partially installed in their permanent location shall be configured to minimize the amount of potentially trapped air in the pipeline.

Leakage Testing for Non-Pressure Piping

Gravity sanitary sewers that contain mechanical jointing in addition to fused PVC joints may need to be tested for excessive leakage.

Gravity sanitary sewer leakage testing may include appropriate water or low pressure air testing. The leakage outward or inward (exfiltration or infiltration) shall not exceed 25 gallons per inch of pipe diameter per mile per day for any section of the system. An exfiltration or infiltration test shall be performed with a minimum positive head of two feet. The air test, if used, shall be conducted in accordance with one of the following Standards:

ASTM F1417

UNI-B-6

The testing method selected shall properly consider the existing groundwater elevations during the test.

Deflection Testing for Non-Pressure Piping

After completion of the backfill, the engineer or owner may require that a deflection test be performed.

Deflection tests should be conducted using a go/no-go mandrel. The mandrel's outside dimension shall be sized to permit no more than 7.5 percent deflection. The percent deflection shall be established from the base inside diameter of the pipe. If the internal beading of the fused joints for the pipe is not required to be removed, the mandrel shall account for this clearance as well. The mandrel shall be approved by the owner or engineer prior to use. Lines that permit safe entry may allow other deflection test options, such as direct measurements.

Disinfection of the Pipeline for Potable Water Piping

After installation, the pipeline, having passed all required testing, shall be disinfected prior to being put into service. Unless otherwise directed by the owner or engineer, the pipeline will be disinfected per AWWA C651.

Partial Testing

Segments of the pipe may be tested separately in accordance with standard testing procedure, as approved by the owner and engineer. Testing of each HDD installation prior to connection to the system or other piping is preferred.

END OF SECTION

Section Q

GEOPOLYMER PIPE & CULVERT LINING

General

A. This performance specification guideline (PSG) includes the minimum requirements for the rehabilitation of sanitary and storm sewer pipelines by the installation of Spray-Applied-Pipe-Liner (SAPL) material within the existing, deteriorated pipe as shown on the plans included as part of these contract documents.

B. The rehabilitation of pipelines shall be completed by the installation of a mortar-based spray applied liner which, once cured, shall be continuous and tight-fitting in a constrained condition with a shear interface with the host throughout the entire length of the original pipeline. The SAPL shall extend the full length of the original pipeline and provide a structurally sound, jointless new pipe-within-a-pipe with no annular space between the SAPL and the host. The Contractor is responsible for proper, accurate and complete installation of the SAPL using the system selected by the Contractor meeting the Owners requirements.

C. Neither the SAPL product, system, nor its installation, shall cause adverse effects to any of the Owner's processes or facilities. The installation pressure for the product shall not damage the system in any way, and the use of the product shall not result in the formation or production of any detrimental compounds or by-products at the wastewater treatment plant. The Contractor shall cleanup, restore existing surface conditions and structures, and repair any of the SAPL system determined to be defective. The Contractor shall conduct installation operations and schedule cleanup in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians, businesses and property owners or tenants.

D. The prices submitted by the Contractor, shall include all costs of permits, labor, equipment and materials for the various bid items necessary for furnishing and installing, complete in place, SAPL in accordance with these specifications. All items of work not specifically mentioned herein which are required, by the contractor, to make the product perform as intended and deliver the final product as specified herein shall be included in the respective lump sum and unit prices bid.

1.1 DESCRIPTION OF WORK AND PRODUCT DELIVERY

A. This PSG covers all work necessary to furnish and install the SAPL. The Contractor shall provide all materials, labor, equipment, and services necessary for traffic control (if required), bypass pumping and/or diversion of flows, cleaning, measurement and television inspection of sewers to be rehabilitated, SAPL installation, reconnection of service connections, all quality controls, provide samples for performance of required material tests, final television inspection, testing of the rehabilitated pipe system, warranty work and other work, all as specified herein.

B. The product furnished shall be a complete SAPL system including specific materials, applicable equipment and installation procedures. If prequalification is required, the SAPL system manufacturer may submit appropriate data/information to the Owner. All other SAPL systems or multi-component products will be required to meet the submittal requirements as contained herein.

C. The SAPL shall be continuous and jointless from manhole to manhole or access point to access point, unless specified, and shall be free of all defects that will affect the long-term life and operation of the pipe in the treated area.

D. The SAPL shall be designed for a life of 50 years or greater and an equal service life unless specifically specified otherwise by the Owner.

E. The SAPL may be designed for partially deteriorated conditions to resist external groundwater pressures only or for fully deteriorated conditions for a structurally stand-alone pipe.

F. The installed SAPL shall comply with the physical performance requirements of Paragraph 2.5.

G. All existing and confirmed active service connections and any other service laterals are to be reinstated, as directed by the Owner, shall be re-opened to their original shape and to 95% - 100% of their original area.

H. All materials furnished, as part of this contract shall be marked with detailed product information, stored in a manner specified by the manufacturer and tested to the requirements of this contract.

I. Warranty inspections shall be executed by the Owner. Any defects found shall be repaired or replaced by the Contractor.

J. Testing shall be executed by a third-party testing laboratory financially and otherwise independent of the Contractor performing the work, outside of fees paid under this contract. The Contractor shall obtain the services of an independent third-party testing laboratory to collect material and produce samples onsite at the project installation, at the request of the Owner. The Laboratory shall take possession of the mixed wet material used for sample production and testing and shall maintain the chain of custody, store samples onsite, transport the samples to their laboratory, demold and store onsite until testing, test and report on all samples produced under this contract. Contractor shall pay for all material, sample production and product testing and reporting performed under this contract.

1.2 REFERENCES

A. The following documents form a part of this specification to the extent stated herein and shall be the latest editions thereof. Where differences exist between codes and standards, the requirements of these specifications shall apply. All references to codes and standards shall be to the latest revised version.

- American Society for Testing and Materials (ASTM):
  - ASTM C 31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field
  - ASTM C 39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
  - ASTM C 78 – Flexural Strength of Concrete
  - ASTM C 109 – Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens)
  - ASTM C 469 – Static Modulus of Elasticity & Poisson's Ratio of Concrete Compression
  - ASTM C 496 – Splitting Tensile Strength of Cylindrical Concrete Specimens
  - ASTM C 666 – Freeze Thaw Durability
  - ASTM C 807 – Set Time of Hydraulic Cement Mortar
  - ASTM C 882 – Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear
  - ASTM C 1090 – Shrinkage Test
  - ASTM C 1138 - Standard Test Method for Abrasion Resistance of Concrete (Underwater Method)
  - ASTM F 2414 – Practice for Sealing Sewer Manhole Using Chemical Grouting
  - ASTM F 2551 – Practice for Installing a Protective Cementitious Liner System in Sanitary Sewer Manholes
- German Institute for Standardization - Deutsches Institut für Normung (DIN)
  - DIN 19573 - Mortar for construction and renovation of drains and sewers outside buildings (Specifically, resistance to biogenic sulfuric/sulphuric acid attack as covered in Appendix A XWW4 and Appendix B XWW1 to XWW3)
- American Concrete Institute (ACI):
  - ACI Certified Concrete Field-Testing Technician, Level 1
  - ACI 305R-99 Hot Weather Concreting
  - ACI 306R-88 Cold Weather Concreting

- National Association of Sewer Service Companies (NASSCO)
    - Pipeline Assessment Certification Program (PACP™)

1.3 PERFORMANCE WORK STATEMENT (PWS) SUBMITTAL

A. The Contractor shall submit, to the Owner, a Performance Work Statement (PWS) which clearly defines the SAPL product delivery in conformance with the requirements of these contract documents. Unless otherwise directed by the Owner, the PWS shall, at a minimum, contain the following:

1. Clearly indicate that the SAPL will conform to the project requirements as outlined in the Description of Work and as delineated in these specifications.

2. Where the scope of work is specifically delineated in the contract documents, a detailed installation plan describing all preparation work, cleaning operations, pre-CCTV inspections, bypass pumping, traffic control, installation procedure, curing instructions (as applicable), service reconnection, quality control, testing to be performed, final CCTV inspection, warrantees furnished and all else necessary and appropriate for a complete SAPL installation. A detailed installation schedule shall be prepared, submitted and conform to the requirements of this contract.

3. Contractor's description of the proposed SAPL technology, including a detailed plan for identifying all active service connections maintaining service, during mainline installation, to each home connected to the section of pipe being lined, including temporary service for commercial, industrial and apartment complexes, if required by the contract.

4. A description of the SAPL materials to be furnished for the project. Materials shall be fully detailed in the submittals and conform to these specifications and/or shall conform to the pre-approved product submission.

5. A statement of the Contractors experience. The Contractor shall have a minimum of three (3) years of cumulative experience installing SAPL in pipe of a similar size, depth, length and configuration as contained in this contract. The lead personnel, including the superintendent, the foreman and the lead crew personnel for the operation of the mix/pump equipment and the SAPL installation must be trained and certified by the material manufacturer and have a minimum of one (1) year of experience with the SAPL technology proposed for this contract and must have demonstrated competency and experience to perform the scope of work contained in this contract. The name and experience of each lead individual

performing work on this contract shall be submitted with the PWS. Personnel replaced by the contractor, on this contract, shall have similar, verifiable experience as the personnel originally submitted for the project.

6. Engineering design calculations shall be performed by a qualified, experienced engineer licensed to practice by the State/Country in which the asset is installed. Engineer shall have sufficient experience in underground infrastructure, structural and/or geotechnical design to satisfy the standard of care warranted. Design protocol(s) employed by the engineer shall be widely accepted in the underground rehabilitation industry. Design shall not allow for an acceptable crack width of greater than 0.01-inch in the final application. Designs should at minimum be prepared for each size/shape combination of SAPL to be installed and shall take into consideration the condition of the existing pipe, and all applicable loads which may include earth loading, traffic loading, hydraulic loading, ground conditions, variations in the ground water through seasons, variations in conditions in the longitudinal direction and other factors that the registered professional engineer retained by either the producer or the user may consider as important, given the local site conditions. Designs shall present the assumptions made, input data used, design principals employed and shall provide recommendation on the thickness of SAPL installation. It will be acceptable for the Contractor to submit a design for the most severe line condition and apply that design to all of the line sections. All calculations shall include data that conforms to the requirements of these specifications or has been pre-approved by the Owner. Designs shall be subject to the minimums and maximums found in Paragraph 2.5 or superior as substantiated in the information submitted in the PWS and approved by the Owner/Engineer.

7. Proposed manufacturers technology data shall be submitted for all SAPL products and all associated technologies to be furnished.

8. Submittals shall include information on the SAPL material intended for installation and all tools and equipment required for a complete installation. The PWS shall identify which tools and equipment will be redundant on the job site in the event of equipment breakdown. All equipment to be furnished for the project, including proposed back-up equipment, shall be clearly described. The Contractor shall outline the mitigation procedure to be implemented in the event of key equipment failure during the installation process.

9. A detailed description of the Contractor’s proposed procedures for removal of any existing blockages in the pipeline that may be encountered during the cleaning process. A detailed public notification plan shall be prepared and submitted including detailed staged notification to residences affected by the SAPL installation.

10. A dust control plan shall be included in the PWS, by the contractor, that will ensure that project specific dust will be minimized at the project site and surrounding area. The plan will include no less than the following:

a. Description of PPE required for all personnel working on job site

b. Protection of dust emission points

c. Collection and disposal of dust and debris developed during lining operations

B. Compensation for all work required for the submittal of the PWS shall be included in the various pipelining items contained in the Proposal.

1.4 PRODUCT SUBMITTALS

A. Manufacturer-certified copies of all test reports on each product used, including:

1. Test results indicating the product conforms to and is suitable for its intended use per these specifications. Test reports shall be performed at the Licensed Applicator's expense and shall be carried out by an approved independent third-party testing laboratory or by a reputable independent testing body. As a minimum, the test reports should include all those listed in Paragraph 2.5 of this Section.

B. Detailed Minimum Liner Thickness Calculations as required and as discussed further in Paragraph 1.3/A/6 of this Section, along with proposed plan for ensuring that the installed SAPL meets the minimum thickness requirements.

C. Manufacturers' shipping, storage and handling recommendations for all components of the SAPL system.

D. All Safety Data Sheets (SDS) for all materials to be furnished for the project.

E. Contractor Qualifications

1. Manufacturer Certification that Contractor has been trained and approved in the handling, mixing and application of the products to be used. A fully trained field technician shall apply the SAPL material.

2. Manufacturer Certification that the equipment to be used for applying the products has been manufactured or approved by the Manufacturer and Contractor personnel have been trained and certified for proper use of the equipment by the Manufacturer.

F. Proof of any required permits or licenses necessary for the project.

G. After cleaning and preparation by the Contractor of all proposed infrastructure to be rehabilitated and before beginning lining of any infrastructure, the Licensed Applicator/Contractor shall submit to the Owner/Engineer for their records the following:

1. Video (1 copy) of the Contractor's TV inspection of the infrastructure prior to preparation work showing existing condition of asset prior to preparation and lining activities.

2. Video (1 copy) of the Contractor's TV inspection of the infrastructure post preparation and prior to product application, clearly showing installation of depth gauges, treatment of active infiltration and other preparation steps.

H. After rehabilitation of the infrastructure, the Contractor shall submit to the Owner/Engineer for their records the following:

1. A Video (1 copy) of the Contractor's TV inspection of the completed Work performed in compliance with NASSCO PACP™ by trained and certified personnel.

2. Test results of field samples of SAPL material as specified in the Contract Documents.

I. Compensation for all work required for the submittal of product data shall be included in the Lump Sum price contained in the Proposal for Mobilization.

1.5 SAFETY

A. The Contractor shall conform to all work safety requirements of pertinent regulatory agencies and shall secure the site for the working conditions in compliance with the same. The Contractor shall erect signs and other devices as are necessary for the safety of the work site.

B. The Contractor shall perform all Work in accordance with applicable OSHA standards. Emphasis shall be placed upon the requirements for entering confined spaces and with the equipment being utilized for pipe renewal.

C. The Contractor shall submit a proposed Safety Plan to the Owner prior to beginning any work, identifying all competent persons. The plan shall include a description of a daily safety program for the job site and all emergency procedures to be implemented in the event of a safety incident. All work shall be conducted in accordance with the Contractor's submitted Safety Plan.

D. Compensation for all work required for the submittal of the Safety Plan shall be included in the various pipelining items contained in the Proposal.

1.6 QUALITY CONTROL PLAN (QCP)

A. A detailed quality control plan (QCP) that fully represents and conforms to the requirements of these specifications shall be submitted to the Owner. At a minimum the QCP shall include the following:

1. A detailed discussion of the proposed quality controls to be performed by the Contractor.
2. Defined responsibilities, of the Contractor's personnel, for assuring that all quality requirements for this contract are met. These shall be assigned by the Contractor to specific personnel.

3. Proposed procedures for quality control, product sampling and testing shall be defined and submitted as part of the plan.

4. Proposed methods for product performance controls, including method of and frequency of product sampling and testing both in raw material form and cured product form.

5. Scheduled performance and product test result reviews between the Contractor and the Owner at a regularly scheduled job meeting.

6. Inspection forms and guidelines for quality control inspections shall be prepared in accordance with the standards specified in this contract and submitted with the QCP.

1.7 SAPL REPAIR/REPLACEMENT

A. Occasionally installations will result in the need to repair or replace a defective SAPL. The Contractor shall outline specific repair or replacement procedures for potential defects that may occur in the installed SAPL. Repair/replacement procedures shall be as recommended by the SAPL system manufacturer and shall be submitted as part of the PWS.

B. Defects in the installed SAPL that will not affect the operation and long-term life of the product shall be identified and defined.

C. Repairable defects that may occur in the installed SAPL shall be specifically defined by the Contractor based on manufacturer's recommendations, including a detailed step-by-step repair procedure, resulting in a finished product meeting the requirements of these contract specifications.

D. Unrepairable defects that may occur to the SAPL shall be clearly defined by the Contractor based on the manufacturer's recommendations, including a recommended procedure for the removal and replacement of the SAPL.

1.8 AS-BUILT DRAWINGS/RECORDS

A. As-Built drawings/records, pre & post inspection videotapes, CDs or other electronic media shall be submitted to the Owner, by the Contractor, within 2 weeks of final acceptance of said work or as specified by the Owner. As-Built drawings/records will include the identification of the work completed by the Contractor and shall be prepared on one set of Contract Drawings/Records provided to the Contractor at the onset of the project.

B. As-Built drawings/records shall be kept on the project site at all times, shall include all necessary information as outlined in the PWS or as agreed to by the Owner and the Contractor at the start of the Contract, shall be updated as the work is being completed and shall be clearly legible.

C. Compensation for all work required for the submittal and approval of As-Built drawings/records shall be included in the various pipelining items contained in the Proposal.

1.9 WARRANTY

A. The materials used for the project shall be certified by the manufacturer for the specified purpose. The Contractor shall warrant the SAPL material and installation for a period of one (1) year. During the Contractor warranty period, any defect which may materially affect the integrity, strength, function and/or operation of the pipe, shall be repaired at the Contractor's expense in accordance with procedures included in Section 1.7 SAPL Repair/Replacement and as recommended by the Manufacturer.

B. On any work completed by the contractor that is defective and/or has been repaired, the contractor shall warrant this work for (1) year in addition to the warrantee required by the contract.

C. After a pipe section has been rehabilitated and for a period of time up to one (1) year following completion of the project, the Owner may inspect all or portions of the rehabilitated system. The specific locations will be selected at random by the Owner's inspector and should include all sizes of SAPL from this project. If it is found that any of the SAPL has developed abnormalities since the time of "Post Construction Television Inspection," the abnormalities shall be repaired and/or replaced as defined in Section 1.7 SAPL Repair/Replacement and as recommended by the manufacturer. If, after inspection of a portion of the rehabilitated system under the contract, problems are found, the Owner may televise all the SAPL installed on the contract. All verified defects shall be repaired and/or replaced by the Contractor and shall be performed in accordance with Section 1.7

SAPL Repair/Replacement and per the original specifications, all at no additional cost to the Owner.

PART 2 PRODUCTS

2.1 MATERIALS

A. The SAPL System must meet the physical performance requirements of these contract documents.

B. Deliver materials in original containers with seals unbroken and labels intact and free of moisture. Do not use materials that have been directly exposed to moisture or if there is visible damage to the packaging.

C. All materials must be inspected by the Contractor upon receipt and the Bill of Lading reviewed to confirm it properly documents amount(s) and type(s) of material(s) received, date and time of delivery as well as the shipping company delivering the material. Completed/signed Bill of Lading and material batch numbers shall be logged by the Contractor upon receipt of the material(s) and stored in project files for possible future reference. Receipt of material should also be noted in Daily Activity Log.

D. Materials may be stored offsite, such as in a yard, for a period of time prior to use on the project. Upon delivery to the project, Contractor shall designate a specific space at the project site for staging and mixing materials. Protect this space and repair all damage resulting from use. Do not store kerosene, gasoline or other flammable liquids in this space. Remove oily rags at the end of each day’s work. Regardless of storage location, Lining System products are to be kept dry, protected from weather and stored under cover within the temperature ranges recommended by the Manufacturer. Products are to be stored and handled according to their SDSs or appropriate classification. Damaged or unsuitable products shall be promptly removed from the job site and shall be replaced with suitable materials.

2.2 MORTAR LINER MATERIALS

A. The Liner material may be Centrifugally Cast, Manually Sprayed or Hand Troweled.

B. All liner materials shall be a factory blended, one-component (just add water). Liner materials shall be formulated to restore structural integrity while eliminating the infiltration of groundwater, provide enhanced corrosion resistance and shall be specifically formulated for ease of mechanical pumping, spraying and spin casting.

C. The Liner shall be formulated to produce an installed liner that can be installed in layers at a minimum of ½" per layer and adhere to the existing host pipe surface to a sufficient level to cure and form an independent system. Overall installation thickness shall comply with Paragraph 2.5.

D. The finished infrastructure must be such that once the Liner sets, the total liner thickness will be homogeneous and monolithic and meet or exceed the design thickness.

2.3 PREPARATION AND SUPPORT MATERIALS

A. Infiltration Control (Mild to Moderate).

1. All fast setting materials furnished shall be formulated to be applied in dry powder form, with no prior mixing of water, directly to active leaks under hydrostatic pressure in pipes, manholes or related structures. Alternatively, material can be mixed into the consistence of a putty and used to slow the leak prior to application of additional products. Materials shall consist of rapid setting cements, siliceous aggregates, and various accelerating agents. Material shall not contain chlorides, gypsum, or metallic particles. Infiltration control material shall be approved by SAPL manufacturer.

B. Infiltration Control (Heavy).

1. Injection grouting material shall be used to address heavy infiltration following Manufacturer's instructions. Apply injection grouting material as approved by the SAPL Manufacture. Injection grouting material shall be approved by SAPL manufacturer.

2. Heavy infiltration means infiltration that meets the definition of a "runner" or "gusher", as defined by NASSCO's Pipeline Assessment Certification Program.

a. Runner - water running into the sewer through a faulty joint or infrastructure wall. A continuous flow will be visible.

b. Gusher - water entering the infrastructure "under pressure" through a defect or faulty joint.

C. Invert Repair and Patching (Fast Return to Service).

1. All material furnished shall be formulated to fill large voids in pipe, manholes and structure walls and to repair or reconstruct inverts where no hydrostatic pressure exists.

2. For infrastructure which must be returned to service quickly, material shall consist of rapid setting cements, monocrystalline quartz aggregates, and various accelerating agents. Approved invert repair and patching material shall be approved by

SAPL manufacturer and shall achieve a 1-day compressive strength of 2,000 psi | 13.8 MPa or greater.

D. Invert Repair and Patching (Bypassed or No Flow).

1. All material furnished shall be formulated to fill large voids in pipe, manholes and structure walls and to repair or reconstruct inverts where no hydrostatic pressure exists.
2. For infrastructure with heavily deteriorated inverts and which is rehabilitated under no flow or bypass conditions, where flow will not be returned until at least 12 hours after SAPL application. Invert repair and patching material shall be approved by SAPL manufacturer.

2.4 STRUCTURAL REQUIREMENTS

A. The samples shall be produced on-site from the same materials used on the project by an independent third-party lab technician so as to represent the physical properties and characteristics of the finished SAPL to the greatest extent possible. It shall be the responsibility of the Contractor to monitor the site conditions and install a SAPL that meets or exceeds the minimum properties specified herein. Details of testing are found in Paragraph 3.5.

B. The SAPL shall be designed as per Paragraph 1.3/A/6. The SAPL design shall assume no bonding to the original pipe wall for partially structural of fully structural designs.

C. The cured pipe material (SAPL) shall, at a minimum, meet or exceed the structural properties, as listed below or as discussed in 1.3/A/6.

2.5 MINIMUM PHYSICAL PROPERTIES

Physical Property	Test Method	Performing Requirements
Compressive Strength	ASTM C39	Min. 8,000 psi | 55 MPa @ 28 days
Flexural Strength	ASTM C78	Min. 800 psi | 5.5 MPa @ 28 days
Modulus of Elasticity (Compressive Elastic Modulus)	ASTM C469	Min. $4x10^6$ psi | 27.6 GPa @ 28 days
Split Tensile	A	Min. 700 psi | 4.8

Strength	ASTM C496	MPa @ 28 days
Freeze Thaw Durability	ASTM C666	Max 0.5% Loss @ 300 cycles
Bond Strength to Concrete	ASTM C882	Min. 2,500 psi | 17 MPa @ 28 days
Shrinkage Test	ASTM C1090	Max 0.02% @ 28 days
Abrasion Resistance	ASTM C1138	Max 18.31 in^3 | 0.0003m^3 Total Volume Loss @ 6 cycles on 28 day sample
Chemical Resistance **Severe Sanitary Sewer Environments (pH<2.0)**	DIN 19573	XWW4 - Pass

A. The required structural SAPL wall thickness shall be based, as a minimum, on the physical properties of the cured liner and per the design of the Professional Engineer (see Paragraph 1.3/A/6) and in accordance with the following design parameters:

Host Pipe Material	RCP, CMP, etc.
Pipe Shape / Size / Length	Circular, Elliptical, etc. / XX-inch / X,XXX LF
Level of Deterioration	Fully, Partially
Design Safety Factor	2.0
Ovality	Greater of 0% or as measured by field inspection
Constrained Soil Modulus	MIN 1,200 psi OR Per AASHTO LRFD Section 12 and AWWA Manual M45
Groundwater Depth (relative to invert)	Recommended that actual depth elevations be specified or indicated on the Plans when available from USGS or other sources, or that one of the following be directed based upon local working knowledge of the Owner/Engineer:

	o Assume below invert of pipe o Assume 1 FT above crown of pipe o Assume halfway between crown of pipe and ground (Recommended value if unknown)
Soil Depth (above the crown)	As specified or indicated on the Plans
Live Load	road, railroad, or airport as applicable
Soil Load (assumed)	120 lb./cu. ft. or as specified
Minimum Service Life	50 years
Minimum Thickness – Partially Structural	Greater of 1.0-inch | 25mm or as design dictates
Minimum Thickness – Fully Structural	Greater of: • 1.0-inch | 25mm or as design dictates for assets under 54-inch | 1350mm equivalent diameter/span • 1.5-inch | 38mm or as design dictates for assets equal to or greater than 54-inch | 1350mm and up to 96-inch | 2400mm equivalent diameter/span • 2.0-inch | 50mm or as design dictates for assets greater than 96-inch | 2400mm equivalent diameter/span

B. The Contractor shall submit, prior to installation of the lining materials, certification of compliance with these specifications and/or the requirements of the pre-approved SAPL system. Certified material test results shall be included that confirm that all materials conform to these specifications and/or the pre-approved system. Materials not complying with these requirements will be rejected.

PART 3 INSTALLATION

3.1 CONSTRUCTION REQUIREMENTS

A. The SAPL shall be constructed of materials and methods that, when installed, shall provide a jointless and continuous structurally sound SAPL able to withstand all imposed static and dynamic loads on a long-term basis as required in the specifications.

B. The Contractor may, under the direction of the Owner, utilize any of the existing manholes in the project area as installation access points. If a street must be closed to traffic because of the location of the sewer, the Contractor shall furnish a detailed traffic control plan and all labor and equipment necessary. The plan shall be in conformance with the requirements of the local agency having jurisdiction over traffic control.

C. Contractor shall perform pre-cleaning video inspections of the pipelines. Prior to sealing of active leaks, invert repair and patching and lining, the Contractor's experienced personnel competent in the inspection of large diameter pipes and/or related manholes and structures will clean the infrastructure to be rehabilitated and provide pre-construction videos of the complete limits of the infrastructure to be rehabilitated as well as the project site utilizing color video inspection equipment. As an alternative, color photos are acceptable for manholes and structures. The interior of the effected host infrastructure shall be carefully inspected to determine the location of and conditions which may prevent the proper installation of the SAPL, and these conditions shall be addressed per the SAPL Manufacturer's standards prior to application of the SAPL material. Documentation shall be submitted to the Owner/Engineer following commencement of work.

D. Cleaning of Pipe Lines – The Contractor shall remove all internal debris from the pipe line that will interfere with the installation and the final product delivery of the SAPL, as required in these specifications, and accurately measure and document the diameter and length of the existing pipeline to be rehabilitated. The Contractor shall clean the interior of the existing host pipe utilizing a 3,500 psi | 241 bar or greater pressure washer prior to installation of the SAPL. When grease or oil are present within the host infrastructure, steam, heated water (up to 200°F | 93°C) or a detergent approved by Owner/downstream treatment facility owner/operator may be added to the water and used integrally with the high-pressure water cleaning and other methods as referenced in industry accepted standards such as ASTM F2551. Solid debris and deposits shall be removed from the system and disposed of properly by the Contractor. Moving material from manhole section to manhole section shall not be allowed. As applicable, the contractor shall either plug or install a flow bypass pumping system to properly clean the project assets. Precaution shall be taken by the Contractor in the use of cleaning equipment to avoid damage to the existing pipe, access structures and laterals. The repair of any damage, caused by the cleaning equipment, shall be the responsibility of the Contractor. The Owner will designate a site for the disposal of all debris removed from the Owner's sewer system as a direct result of the cleaning operation. Unless otherwise specified by the Owner, the Contractor shall dispose of all debris at no charge. Should any dumping fees apply, the Contractor shall be compensated at the respective unit price bid in the Proposal for cleaning.

E. Bypassing Existing Flows - The Contractor shall provide for the flow of existing mainline and service connection effluent, if applicable, around the section or sections of pipe designated for SAPL installation. Service connection effluent may be plugged, if required, only after proper notification to the affected residence and may not remain plugged overnight. Accommodations may be required for internal conveyance of released flows prior to cure of freshly applied SAPL. Installation of the SAPL shall not begin until the Contractor has installed the required plugs or a sewage bypass system and all pumping facilities have been installed and tested under full operating conditions including the bypass of mainline and side sewer flows, if required. Provided written procedures and approval of the material manufacturer, once the installation has begun, should flows need to be released prior to the SAPL being fully cured, such release is at the risk of the Contractor. Following any such release the Contractor shall reinspect the affected areas, clean and reapply SAPL material as needed to achieve appropriate installation thickness. The Contractor shall coordinate sewer bypass and flow interruptions with the Owner at least seven (7) days in advance. The pump and bypass lines shall be of adequate capacity and size to handle peak flows. The Contractor shall submit a detail of the bypass plan and design to the Owner before proceeding with any installation. Compensation for bypass pumping and all associated plans and approvals shall be at the price bid in the Proposal.

F. Line Defects - Loose or defective brick, concrete, grout, ledges, and all steps shall be removed to provide an even surface prior to application of the SAPL material. Exposed rebar shall be pressure washed to remove any extraneous materials, such as dirt, oil, grease, debris and loose rust scale. It shall be the responsibility of the Contractor to clear the line of misalignments, broken or collapsed sections or sags that will interfere with the installation and long-term performance of the SAPL. If pre-installation inspection reveals a misalignment, broken or collapsed section or sag that was not identified as part of the original scope of work and will prohibit proper installation of the SAPL, the Contractor may be directed by the Owner to correct the problem(s) prior to installation by utilizing open cut repair methods or alternative means. The Contractor shall be compensated for this work under a contingency pay item or change order. Removal of any previously unknown defects shall be considered as a changed condition. The cost of removal of defects that appeared on pre-bid video documentation and made available to the Contractor, prior to the bid opening, shall be compensated for on a unit price basis in accordance with the contract documents.

G. The Contractor shall be responsible for sealing all active points of infiltration utilizing materials in accordance with the SAPL Manufacturer's recommendations and the following requirements:

1. The area to be repaired must be clean and free of debris to the extent the repair material will bond to the surface of the host area.

2. For quick-setting mortar, with gloved hand, place a generous amount of the dry quick-setting cementitious material to the active leak, with a smooth fast motion, maintaining external pressure for 60 seconds, repeat until leak is stopped.

3. Proper application should not require any special mixing of product or special curing requirements after application.

H. The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing the SAPL. If required in the contract documents, each connection will be dye tested to determine whether or not the connection is live or abandoned. The cost for dye testing of existing service connections shall be compensated at the unit price bid in the Proposal for Dye Testing of Existing Service Connections. In the event the status of a service connection cannot be adequately defined, the Owner will make the final decision, prior to installation of the SAPL, as to the status. Typically, only service connections deemed "active" shall be reopened by the Contractor.

I. Invert Repair and Patching - The work consists of mixing and applying flowable fill or a rapid setting, high early strength, non-shrink patching material to fill all large voids and repair inverts prior to applying SAPL to the infrastructure. For pipe or manhole invert repairs, flow must be temporarily restricted prior to cleaning and during repair.

1. The area to be repaired must be capable of receiving the appropriate repair material.

2. Mix water shall be clean potable water and require no additives or admixtures for use with patching materials.

3. Flowable fill shall be mixed on-site or delivered to the site ready for use. Material should be mixed in appropriate quantities to avoid setting prior to placement in voids or inverts.

4. Once mixed to proper consistency, the materials shall be applied to the invert or void areas by pump, hand or trowel. In invert applications, care should be taken to not apply excessive material in the channel, which could restrict flow. Once applied, materials should be smoothed either by hand or trowel in order to facilitate flow.

5. Flows in inverts patched with rapid cure invert repair and patching material can be reestablished within 30 minutes of material placement. Flows in inverts patched with flowable fill material shall not be reestablished until at least 12 hours have passed, unless otherwise directed by Manufacturer.

J. Depth Gauges – Prior to installation, depth gauges shall be permanently attached to the interior of the host at sufficient positions circumferentially and spacing linearly so as to allow for visual confirmation of the installation thickness during application.

K. Following the sealing of active leaks, invert repair and patching and preparation of the infrastructure to include setting of depth gauges, prior to application of the SAPL material, the Contractor's experienced personnel competent in the inspection of large diameter pipes and/or related manholes and structures will provide pre-lining videos of the infrastructure to be rehabilitated utilizing color video inspection equipment. Licensed Applicator can perform inspection one section at a time, or as a single inspection of the complete limits of the work, so long as no spray application of SAPL material is installed in the infrastructure until that infrastructure's pre-lining condition has been documented. As an alternative, color photos are acceptable for manholes and structures. The interior of the effected host infrastructure shall be carefully inspected to provide confirmation that the conditions identified during Pre-Construction Inspection, as discussed in Paragraph 3.1/D, have been addressed per SAPL Manufacturer's standards prior to application of SAPL material. Documentation shall be submitted to the Owner/Engineer following commencement of work.

L. The Contractor shall be allowed use water from an owner-approved fire hydrant in the project vicinity. Use of an approved double check backflow assembly shall be required. Contractor shall provide his own approved assembly. Contractor shall pay current market price for all water usage.

3.2 INSTALLATION OF LINER

A. The liner shall be mixed, installed and cured (as applicable) in the host pipe per the manufacturer's specifications as described and submitted in the PWS.

B. SAPL installation shall be in accordance with the applicable ASTM/ACI standards and/or manufacturer's instructions.

C. The SAPL material shall be mixed in equipment approved by the SAPL Manufacturer following the Manufacturer's water/material ratio, mix time, temperature and other requirements. Appropriate documentation shall be kept in a Daily Application Log throughout the installation process. The mixing operations must be performed so that the minimum amount of dust is released into the surrounding environment.

D. The SAPL material may be spray applied and/or centrifugally spin-cast to the inside of an existing pipeline or structure. The necessary equipment and application methods to apply the liner materials shall be only as provided by the SAPL material Manufacturer. Material shall be mixed in accordance with Manufacturer's specifications to proper consistency, then the materials shall be pumped through a high-pressure material hose for delivery to the appropriate and / or selected application device.

E. In brick, block, rock, concrete and corrugated metal pipelines, tunnels and manholes with deteriorated surfaces, mortar material shall be applied to specified thickness, but no less than one (1)-inch | 25mm. Application on all infrastructure shall occur only after preparing receiving surfaces.

F. The Manufacturer's recommended cure instructions (as applicable) must be strictly adhered to at all times.

3.3 FINISH

A. The installed SAPL shall be continuous over the entire length of a sewer line section (unless specified) and be free from visual defects such as foreign inclusions, infiltration (defined as PACP™ Gusher, Runner or Dripper), major surface profile deviation and delamination. The SAPL shall be impervious and free of any leakage through the SAPL wall.

B. Any defect which will or could affect the structural integrity or strength of the SAPL shall be repaired at the Contractor's expense in accordance with the procedures submitted under Section 1.7 SAPL Repair/Replacement.

C. Using the records from the pre-construction inspections, the Contractor shall insure that all laterals and other connecting pipes are properly reinstated and put back in service. Any excessive SAPL material at the connection shall be removed. The Contractor shall ensure that no infiltration is originating at the point of connection by sealing any leaks with appropriate product(s). The laterals and pipe connections shall then be completed by hand, applying the SAPL to the outer surface of the connection to the pipe and smoothly tapering it into the lateral or connecting pipe. No rough edges or abrupt transitions that could catch debris or hinder the flow shall remain.

D. Termination of the SAPL at the end of a pipe or manhole shall be completed by hand applying the SAPL to the outer surface of the pipe or into the interior of the manhole. Unless specifically directed otherwise in the project plans/specification, all starter/intermediate/terminal manholes/junctions/bends/other structures which are directly impacted by rehabilitation activities will also receive an application of the SAPL material. If no direction is provided, or should information conflict, these manholes are to be lined with a minimum thickness of 1-inch | 25.4mm. The junctions, bends, shafts, and other structures are to be lined with a minimum thickness of 1-inch | 25mm. Unless specifically directed otherwise in the project plans/specifications, all manholes which have been lined with SAPL material will receive an application of chimney treatment, refer to Paragraph 2.3/E for additional details.

E. Compensation shall be at the actual length of SAPL installed. The length shall be measured from center of manhole to center of manhole. The unit price per linear foot installed shall include all materials, labor, equipment and supplies necessary for the complete SAPL installation. Compensation for service connection sealing and pipe sealing at the manhole/wall interface shall be at the unit price bid in the Proposal.

3.4 FLOWABLE FILL OF VOID AREAS

A. Where required by the owner, the contractor shall backfill known voids that remain after installation of SAPL. The material shall be of the flowable fill type and shall be injected into the void while removing all trapped air from the void. The contractor shall submit the proposed method of placing the flowable fill, including pressures that will not collapse the SAPL and air release method to be employed, to the owner for review before any material is installed. The cost of this work shall be at the unit price bid for flowable fill and include all material, equipment, and labor to complete the filling of the soil void

3.5 TESTING OF INSTALLED SAPL

A. The physical properties of the installed SAPL shall be verified through field sampling and laboratory testing. All mixed materials for testing shall be furnished by the Contractor to the Lab technician for sample preparation at the job site, transport to the lab and testing. All sample preparation, transport and materials testing shall be performed at the Contractor's expense by an independent third-party laboratory selected by the Contractor as recommended by the SAPL manufacturer. All tests shall be in accordance with applicable ASTM test methods to confirm compliance with the requirements specified in these contract documents.

B. The Contractor shall provide mixed material samples for sample preparation to the Lab technician while onsite from the actual installed SAPL. Samples shall be provided from the first and last day of installation and every 42,000 lbs | 19,050 kg of material during application of SAPL or as required by the Owner. The sample shall be collected from the mixer/hopper or if appropriate, the end of the application hose. Mixing will be performed by Contractor, all other steps to include sample preparation, storage and transport of samples will be performed by the Lab Technician and may be witnessed by the Owner/Engineer. The lab technician shall return to the site to pick up and transport the samples to the testing laboratory no less than 24 hours and no more than 48 hours after initial production.

For ASTM C39 Compressive samples, it is recommended that nine (9) four (4) by eight (8) inch | 100 x 200 mm test cylinders be prepared following ASTM C 31. Alternatively, ASTM C109 Compressive samples in the form of two (2) by two (2) by two (2) | 50 x 50 x 50 mm test cubes can be prepared. It is recommended that three (3) samples be tested at 7 days, three (3) at 28 days and three (3) retained as directed by the Contractor.

The laboratory results shall identify the project, the test sample date, location as referenced to the nearest manhole and station, product batch and mix information. Final payment for the project shall be withheld pending receipt and approval of the test results. If properties tested do not meet the minimum physical and thickness requirements, the SAPL shall be repaired or replaced by the Contractor unless the actual physical properties and the thickness of the sample tested meet the design requirements as required in the contract.

C. The installed SAPL thickness shall be confirmed during application through the visual observation and monitoring of the permanent depth gauges and use of a handheld depth gauge by the installer. Pre and Post installation video should show the presence of the depth gauge (pre) and coverage of the depth gauge indicated by it no longer being visible (post).

D. All costs to the Contractor associated with providing mixed SAPL material to an independent third-party testing laboratory for sample preparation, transport, curing and testing shall be included in the Lump Sum price bid for Mobilization.

3.6 FINAL ACCEPTANCE

A. A visual inspection should be made by the Inspector and Contractor periodically throughout the progression of construction, prior to the completion of a lining stage. Any deficiencies in the finished lining shall be marked and repaired by the Contractor according to the procedures set forth herein.

B. All SAPL sample testing and repairs to the installed SAPL, as applicable, shall be completed before final acceptance, meeting the requirements of these specifications and documented in written form.

C. The Contractor shall perform a detailed closed-circuit television inspection, in accordance with NASSCO PACP™ standards by trained and certified personnel, in the presence of the Owner after installation of the SAPL and reconnection of the side sewers. A radial view (pan and tilt) TV camera shall be used. The finished SAPL shall be continuous over the entire length of the installation and shall be free of significant visual defects, damage, holes, leaks and other defects that are not a reflection of the existing pipe condition. Unedited digital documentation of the inspection shall be provided to the Owner within ten (10) working days of the SAPL installation acceptance. The data shall note the inspection date, location of all reconnected side sewers, debris, as well as any defects in the SAPL. Immediately prior to conducting the closed-circuit television inspection, the Contractor shall thoroughly clean the newly installed SAPL removing all debris and build-up that may have accumulated at no additional cost to the Owner.

D. Bypass pumping or plugging from the upstream manhole shall be utilized to minimize sewage from entering the line during the inspection. In the case of bellies in the line, the pipe shall be cleared of any standing water to provide continuous visibility during the inspection.

E. Where leakage is observed through the wall of the pipe, the contractor will repair any observed leaks.

3.7 PAYMENT

Payment for the work included in this section shall be in accordance with the prices set forth in the proposal for the quantity of work performed.

END OF SECTION

SECTION 7 – EVALUATION CRITERIA AND SUBMITTAL REQUIREMENTS

I. EVALUATION

Criteria:

Proposals will be evaluated based on the most competitive offer. The County will consider the quality of products and services offered, price, responsiveness to the RFP requirements, and the Offeror's ability to understand and meet the needs of DuPage County. Proposals will be evaluated by an Evaluation Committee comprised of four (4) Department *and additional department(s) personnel* based on the evaluation criteria listed below (other than price), which constitutes a total of 60 points. The 40 points allocated to Pricing will be scored solely by Procurement. Evaluations/scoring will be completed upon the conclusion of any questions and/or clarification from the Offeror(s) if requested. The County reserves the right to make such additional investigations as it deems necessary to establish the competence and financial stability of any Offeror submitting a proposal. In order to comprehensively evaluate the proposals received, the County, may seek additional information or clarification from one or more of the Offerors. Experiences with the County and entities that evaluation committee members represent may be taken into consideration when evaluation qualifications and experience. The County reserves the right to conduct interviews with some or all of the Offerors at any point during the evaluation process. However, the County may determine that interviews are not necessary. In the event interviews are conducted, information provided during the interview process shall be taken into consideration when evaluating the stated criteria. The County shall not reimburse the Offeror for the costs associated with the interview process.

Evaluation Criteria	**Available Points**

Offeror Qualifications and Offering (Scored by Evaluation Committee)
• Provide a response to the national program:
    o Include a detailed response to, Attachment A, Exhibit A, OMNIA Partners Response to National Cooperative contract. Responses should highlight experience, demonstrate a strong national presence, describe how Offeror will educate its national sales force about the contract, describe how products and services will be distributed nationwide, include a plan for marketing the products and services nationwide, and describe how volume will be tracked and reported to OMNIA Partners.
    o The successful Offeror will be required to sign Attachment A, Exhibit B, OMNIA Partners Administration Agreement. Offerors should have any reviews required to sign the document prior to submitting a response. Offeror's response should include any proposed exceptions to the OMNIA Partners Administration Agreement.
    o Include and highlight Offeror's general qualifications including specific disciplines represented that are applicable to the proposed work, number of employees, office locations, and other factors.
• Provide a general description of the Offerors products and services being provided as part of the response.
• Provide any information regarding warranties for products and/or services.
• Provide Offeror's depth and breadth of ability to carry out the scope and the extent of the work required.
• Provide relevant prior experience providing similar products and services.
• Provide 3 customer references relating to the products and services within this RFP. Include entity name, contact name and title, current contact phone and email, city, state, years serviced, description of services, and annual volume
• Provide a list of states that the Offeror can provide products and services and
	30

Evaluation Criteria	Available Points
include a copy of applicable state licenses. • If Offeror requires additional agreements, provide a copy of the proposed agreement.	
Key Qualifications (Scored by Evaluation Committee) • Provide a statement that portrays the Offeror's engagement team qualifications in relation to the Scope of Services. • Provide background and credentials profile for the project team assigned to the DuPage County account, including name, position/title, location, years of industry experience, and years with the Offeror. • Describe communications skills and interaction with staff and participants including protocol for resolving issues.	15
Project Understanding • Describe Offeror's interest, understanding and approach to provide services for this engagement in relation to the Scope of Services, including a schedule to accomplish the project. • Describe Offeror's ability to meet Technical Specifications. • Describe Offeror's ability to meet Project Timeline. • Provide Offeror's implementation plan shall include, but not limited to: o General approach, o Timeline & Implementation, and o Additional and Value-Added Services. • Provide available ordering methods – online ordering, order tracking, order history, etc. o Indicate if payments are accepted via credit card. If so, may credit card payment(s) be made online and are there any Convenience Fees (as allowable per the Via Operating Regulations)?	15
Price (Scored by Procurement) Federal Funding Pricing Due to products and services potentially being used in response to an emergency or disaster recovery situation in which federal funding may used, provide alternative pricing that does not include cost plus a percentage of cost or pricing based on time and materials; if time and materials is necessary, a ceiling price that the contractor exceeds at its own risk will be needed as determined and set by the Participating Public Agency. Products and services provided in a situation where an agency is eligible for federal funding, Offeror is subject to and must comply with all federal requirements applicable to the funding including, but not limited to the FEMA Special Conditions section located in the Federal Funds Certifications Exhibit. Not to Exceed Pricing Pricing submitted is not to exceed pricing. Unlike fixed pricing, the Contractor can adjust submitted pricing lower if needed but, cannot exceed original pricing submitted. Offeror	40

Evaluation Criteria	Available Points

must allow for lower pricing to be available for similar product and service purchases.
 	
• Where applicable, Offerors shall provide line-item fixed pricing, discount off, a combination with indefinite quantities, or other pricing as applicable to the products and services provided by Offeror. The discount proposed should remain the same for the first 12 months after the contract award.
  ○ Offerors shall indicate any mobilization or demobilization pricing as applicable which may vary depending on the location of the Participating Public Agency or the distance of Participating Public Agency from the Offeror or the County. For any mobilization or demobilization pricing, Offeror shall indicate the requirements for when/if mobilization or demobilization shall apply.
• Where and if applicable, Offerors shall provide pricing based on a discount from a price list or catalog (or major items of equipment purchased and installed by Offeror with a breakout of manufacturer's catalog price list along with discount off list price), or fixed price, or a combination of both with indefinite quantities. Prices listed will be used to establish the extent of product lines, services, warranties, etc. that are available from Offeror and the pricing per item. Multiple percentage discounts are acceptable if, where different percentage discounts apply, the different percentages are specified. Additional pricing and/or discounts may be included.
• Include an electronic copy of the catalog from which discount, or fixed price, is calculated. Electronic price lists must contain the following *(if applicable)*:
  ○ Manufacturer or Other Part #
  ○ Offeror's Part # (if different from manufacturer part #)
  ○ Description
  ○ Manufacturers or Other Suggested List Price and Net Price
  ○ Net Price to Region 4 ESC (including Freight)
• Describe any additional charges or fees.
• Describe any additional discounts or rebates available. Additional discounts or rebates may be offered for volume, growth, annual spend, etc.
• Provide available payment terms.
• Complete the Bid Form Pricing documents included in this RFP.	

Total	**100**

The selection of any Offeror shall be at the recommendation of the Evaluation Committee and the approval by the DuPage County Board. The County reserves the right to reject any or all proposals.

Acceptance of Proposals:

The Chief Procurement Officer reserves the right to reject any or all bids or any part thereof, to waive informalities, and to accept the Proposal deemed most favorable to The County.

General

The proposals should be separated into two parts marked "Technical Proposal" and "Price Proposal". Price Proposal should be in a sealed envelope and include Offeror's name on both the outside and inside of the proposal. Each section should include the Offeror's name, address, telephone number, and the title and email address of the person authorized to represent the Offeror. Proposals delivered to the County should include one (1) compete paper copy and one (1) electronic copy on a flash drive. For proposals submitted via email, the Technical Proposal and Price Proposal sections should be sent as separate attachments.

II. SUBMITTAL REQUIREMENTS

Qualified Offeror's interested in performing the work described in this RFP are asked to provide the following information presented in a clear, comprehensive, and concise manner, illustrating the firm's capabilities, experience and expertise:

1. **Cover Letter** – Provide an introductory letter, with content at discretion of submitter, that is signed by an authorized representative of the Offeror. This letter should be addressed to The County of DuPage. Please acknowledge receipt of all addendums in this letter.
2. **Offeror's Qualifications** – Provide a statement that portrays the Offeror's qualifications in relation to the Scope of Services. The response should include the following:
   a) A summary of the Offeror's general qualifications including specific disciplines represented that are applicable to the proposed work, number of employees, office locations, etc.
   b) An outline of the Offeror's depth and breadth to carry out the scope and the extent of the work required, especially that of the project lead.
   c) Main attributes that differentiate your Offeror's from other competitors.
   d) Relevant previous experience with public sector entities.
   e) Provide copy of Business License, Tax ID and any significant certification document supporting your Offeror's expertise.
   f) List of three (3) references, preferably from public sector entities, from contracts similar in size and scope to DuPage County including engagement profile, client name, contact name and title, email and telephone contact information.
3. **Key Qualifications** – Provide a statement that portrays the Offeror's engagement team qualifications in relation to the Scope of Services. The response should include the following:
   a) Background and credentials profile for the key team members and sub-consultants (if used) that would be assigned to the DuPage County account, including name, position/title, location, years of industry experience, years with Offeror's company and number of clients currently assigned.
   b) Areas of expertise of each key team member and sub-consultants.
   c) Communications skills – Interaction with staff and participants.
4. **Project Understanding** – Describe your Offeror's interest, understanding and approach to provide services for this engagement, including a schedule for accomplishing the project.
   a. Describe the ongoing management for your services.
   b. Provide a list of performance metric guarantees that you provide.
   c. Provide sample incident reports.
   d. Provide proposed procedures for internal problem escalation and their process for notifying the County in the event of a problem.
5. **Price** – In a separate sealed envelope or file, provide the following prices:
   a) Annual rates for goods as requested.
   b) a rate card for any additional work that is not considered part of the main engagement.

SECTION 8 - REQUIRED FORMS TO BE SUBMITTED

All forms and documents listed below are required to be submitted for a contractor's response to be accepted.

- ☐ BID FORM PRICING
- ☐ BID FORM SIGNATURE PAGE
- ☐ MANDATORY FORM
- ☐ REFERENCES
- ☐ APPRENTICESHIP OR TRAINING PROGRAM CERTIFICATION
- ☐ VENDOR ETHICS FORM
- ☐ W9
- ☐ OMNIA PARTNERS ATTACHMENTS

BID FORM PRICING

NO.	ITEM	UOM	QTY	PRICE
Section A - CIPP Mainline Rehabilitation Gravity Applications				
1	6" x 4.5mm	1	LF	$
2	8" x 6.0mm	1	LF	$
3	10" x 6.0mm	1	LF	$
4	12" x 6.0mm	1	LF	$
5	15" x 7.5mm	1	LF	$
6	18" x 9.0mm	1	LF	$
7	21" x 9.0mm	1	LF	$
8	24" x 10.5mm	1	LF	$
9	27" x 10.5mm	1	LF	$
10	30" x 12.0mm	1	LF	$
11	33" x 12.0mm	1	LF	$
12	36" x 12.0mm	1	LF	$
13	42" x 13.5mm	1	LF	$
14	48" x 15.0mm	1	LF	$
15	54" x 18.0mm	1	LF	$
16	6" & 8" Additional 1.5mm	1	LF	$
17	10" & 12" Additional 1.5mm	1	LF	$
18	15" & 18" Additional 1.5mm	1	LF	$
19	21" & 24" Additional 1.5mm	1	LF	$
20	27" Additional 1.5mm	1	LF	$
21	30" Additional 1.5mm	1	LF	$
22	33" Additional 1.5mm	1	LF	$
23	36" Additional 1.5mm	1	LF	$
24	42" Additional 1.5mm	1	LF	$
25	48" Additional 1.5mm	1	LF	$
26	54" Additional 1.5mm	1	LF	$
27	6" - 12" CIPP Setup Charge Per Install Length	1	LF	$
28	15" - 21" CIPP Setup Charge Per Install Length	1	LF	$
29	24" - 36" CIPP Setup Charge Per Install Length	1	LF	$
30	36" or Larger CIPP Setup Charge Per Install Length	1	LF	$
31	6" - 10" Backyard Easement Setup Per Install Length	1	LF	$
32	12" - 18" Backyard Easement Setup Per Install Length	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
33	Timber/Matting/Rock/Access	1	SY	$
34	CIPP Short Length Add-On (<300 LF)	1	IN/DIA/FT	$
35	Non-Standard Resin System Add-On	1	IN/DIA/FT	$
36	Scaffold setup Non-Standard	1	EA	$
37	Steel plate (per plate)	1	Day	$
Note: Any CIPP over 54" will be on an individual quote basis.				
			SECTION A TOTAL:	$

NO.	ITEM	UOM	QTY	PRICE
Section B - Pipebursting Rehabilitation				
38	Burst existing 6" or 8" to 8" IPS SDR 19 (0'- 8' deep)	1	LF	$
39	Burst existing 6" or 8" to 8" IPS SDR 19 (8'- 12' deep)	1	LF	$
40	Burst existing 8" or 10" to 10" IPS SDR 19 (0'- 8' deep)	1	LF	$
41	Burst existing 8" or 10" to 10" IPS SDR 19 (8'- 12' deep)	1	LF	$
42	Burst existing 10" or 12" to 12" IPS SDR 19 (0'- 8' deep)	1	LF	$
43	Burst existing 10" or 12" to 12" IPS SDR 19 (8'- 12' deep)	1	LF	$
44	Burst existing 12" or 15" to 16" IPS SDR 19 (0'- 8' deep)	1	LF	$
45	Burst existing 12" or 15" to 16" IPS SDR 19 (8'- 12' deep)	1	LF	$
46	Burst existing 15" or 18" to 18" IPS SDR 19 (0'- 8' deep)	1	LF	$
47	Burst existing 15" or 18" to 18" IPS SDR 19 (8'- 12' deep)	1	LF	$
48	Burst existing 18" or 21" to 22" IPS SDR 19 (0'- 8' deep)	1	LF	$
49	Burst existing 18" or 21" to 22" IPS SDR 19 (8'- 12' deep)	1	LF	$
50	8" - 12" Pipeburst Setup Charge Per Install Length	1	LF	$
51	16" - 22" Pipeburst Setup Charge Per Install Length	1	LF	$
52	Pipeburst Short Length Add-On (<300 LF)	1	IN/DIA/FT	$
53	Change Pipeburst Pipe to Potable Water Grade or Non-Standard Pipe Type Add-On	1	IN/DIA/FT	$
54	Pipeburst Lateral Setup Charge	1	EA	$
55	Pipeburst Lateral	1	LF	$
Note: Any pipebursting over 22", greater than 1 standard size increase, or deeper than 12' will be on an individual quote basis.				
			SECTION B TOTAL:	

Section C / D - Clean/TV & Evaluation for Gravity Pipelines				
NO.	**ITEM**	**UOM**	**QTY**	**PRICE**
56	6" Clean and TV	1	LF	$
57	8" Clean and TV	1	LF	$
58	10" Clean and TV	1	LF	$
59	12" Clean and TV	1	LF	$
60	15" Clean and TV	1	LF	$
61	18" Clean and TV	1	LF	$
62	21" Clean and TV	1	LF	$
63	24" Clean and TV	1	LF	$
64	27" Clean and TV sanitary sewer	1	LF	$
65	30" Clean and TV sanitary sewer	1	LF	$
66	33" Clean and TV sanitary sewer	1	LF	$
67	36" Clean and TV sanitary sewer	1	LF	$
68	42" Clean and TV sanitary sewer	1	LF	$
69	48" Clean and TV sanitary sewer	1	LF	$
70	54" Clean and TV sanitary sewer	1	LF	$
71	6" - 18" Post TV Inspection After Rehabilitation	1	LF	$
72	21" - 36" Post TV Inspection After Rehabilitation	1	LF	$
73	42" or Larger Post TV Inspection After Rehabilitation	1	LF	$
74	Re-setup for TV Due to Point Repairs	1	EA	$
75	Root/Grease removal 6" - 12"	1	LF	$
76	Root/Grease removal 13" - 18"	1	LF	$
77	Root/Grease removal 18" - 24"	1	LF	$
78	Other Remote Obstruction removal (max. 3 lf)	1	EA	$
79	Above Ground Physical Inspection	1	LF	$
80	Smoke Testing	1	LF	$
81	Manhole/Cleanout & Sewer Line Visual Inspection	1	EA	$
82	GPS Survey of Manholes & Cleanouts	1	EA	$
83	Dyed Water Flooding/Leak Quantification & Evaluation	1	EA	$
84	Investigative Float TV - All Sizes	1	LF	$
85	Pre-Construction Video/Drone/Photos	1	LF	$
86	Float TV	1	LF	$
87	Flow Monitoring Meter - Installation	1	EA	$
88	Flow Monitoring Meter - per meter	1	Day	$
89	Rain Gauge - Installation	1	EA	$

NO.	ITEM	UOM	QTY	PRICE
90	Rain Gauge - per gauge	1	Day	$
91	Flow Monitoring - Report	1	EA	$
			SECTION C / D TOTAL:	$

NO.	ITEM	UOM	QTY	PRICE
	Section E - Bypass for Gravity Pipelines and Associated Items			
92	Bypass System Equip/pipe delivery, tear down, pick up 4"	1	EA	$
93	Bypass System Equip/pipe delivery, tear down, pick up 6"	1	EA	$
94	Bypass System Equip/pipe delivery, tear down, pick up 8"	1	EA	$
95	Bypass System Equip/pipe delivery, tear down, pick up 12"	1	EA	$
96	Set Up 4" Pump (Per Pump)	1	EA	$
97	Set Up 6" Pump (Per Pump)	1	EA	$
98	Set Up 8" Pump (Per Pump)	1	EA	$
99	Set Up 12" Pump (Per Pump)	1	EA	$
100	Set Up 4" Piping	1	LF	$
101	Set Up 6" Piping	1	LF	$
102	Set Up 8" Piping	1	LF	$
103	Set Up 12" Piping	1	LF	$
104	Set Up 18" Piping	1	LF	$
105	Set Up >18" up to 30" Piping	1	LF	$
106	Operate 4" pumping System (Fuel & Maint. Per pump)	1	DAY	$
107	Operate 6" pumping System (Fuel & Maint. Per pump)	1	DAY	$
108	Operate 8" pumping System (Fuel & Maint. Per pump)	1	DAY	$
109	Operate 12" pumping System (Fuel & Maint. Per pump)	1	DAY	$
110	Bypass Pump watch labor	1	DAY	$
111	Bypass Line watch labor	1	DAY	$
112	Plug rental 8" - 15"	1	DAY	$
113	Plug rental 18" - 30"	1	DAY	$
114	Plug rental >30"	1	DAY	$
115	Bypass - Driveway Ramp (Setup, Operate, Maintain)	1	DAY	$
116	Bypass - Street Ramp (Setup, Operate, Maintain)	1	DAY	$
117	Bypass - Street Trenching for 8" Pipe (Setup, Operate, Maintain)	1	LF	$
118	Bypass - Street Trenching for 12" Pipe (Setup, Operate, Maintain)	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
119	Bypass - Street Trenching for 18" Pipe (Setup, Operate, Maintain)	1	LF	$
120	Bypass Plan (3rd Party Certified)	1	EA	$
			SUM TOTAL SECTION E:	$

NO.	ITEM	UOM	QTY	PRICE
	Section F - Point Repair by Excavation			
121	8" - 12" Point repair (0'- 8' deep)	1	EA	$
122	8" - 12" Point repair (8'- 12' deep)	1	EA	$
123	15" - 18" Point repair (0'-8' deep)	1	EA	$
124	15" - 18" Point repair (8'-12' deep)	1	EA	$
125	21" - 24" Point repair (0'-8' deep)	1	EA	$
126	21" - 24" Point repair (8'-12' deep)	1	EA	$
127	8" - 12" Point repair extra length	1	LF	$
128	15" - 18" Point repair extra length	1	LF	$
129	21" - 24" Point repair extra length	1	LF	$
130	External reconnect (0'- 8' deep)	1	EA	$
131	External reconnect (8'- 12' deep)	1	EA	$
132	Extra length service over 5' long	1	LF	$
133	Access Pit (0'-8' deep)	1	EA	$
134	Access Pit (8'-12' deep)	1	EA	$
135	Access Pit (>12'-15' deep)	1	EA	$
136	Access Pit (>15'-20' deep)	1	EA	$
137	Extra Depth Access Pit (>20VF)	1	VF	$
138	Potholing for Nearby Utility Location (0'-8' deep up to 4Hr duration)	1	EA	$
139	Potholing for Nearby Utility Location (8'-12' deep up to 4Hr duration)	1	EA	$
140	Potholing for Nearby Utility Location (>12' deep up to 4Hr duration)	1	EA	$
141	Trench safety	1	LF	$
142	Modified Trench safety (other than conventional shore boxes)	1	VF	$
143	Special shoring - Coffer dam	1	EA	$
144	Install New 4' DIA manhole 0' - 6' deep	1	EA	$
145	Extra depth 4' DIA manhole over 6' deep	1	VF	$
146	Install New 5' DIA manhole 0' - 6' deep	1	EA	$
147	Extra depth 5' DIA manhole over 6' deep	1	VF	$
148	Install New 6' DIA manhole 0' - 6' deep	1	EA	$
149	Extra depth 6' DIA manhole over 6' deep	1	VF	$

NO.	ITEM	UOM	QTY	PRICE
150	R/R MH cone	1	EA	$
151	Install WW Access Chamber	1	EA	$
152	Remove existing MH 0'-6' deep	1	EA	$
153	Extra depth Remove existing MH >6' deep	1	VF	$
154	Reconstruct external MH drop	1	EA	$
155	Cement stabilized sand	1	Ton	$
156	Granular backfill	1	Ton	$
157	Flowable Fill	1	CY	$
158	Select backfill as designated by Owner	1	Ton	$
159	Dewatering setup (well pointing)	1	EA	$
160	Well point	1	LF	$
161	Construction entrance	1	EA	$
162	Install/Remove crushed rock road w/ filter fabric 15' wide	1	LF	$
163	Extra hand excavation	1	CY	$
164	4" to 8" Open Cut Replacement (0'-6' deep)	1	LF	$
165	10" to 12" Open Cut Replacement (0'-6' deep)	1	LF	$
166	15" to 18" Open Cut Replacement (0'-6' deep)	1	LF	$
167	21" to 24" Open Cut Replacement (0'-6' deep)	1	LF	$
168	Open Cut Extra Depth Add-On	1	LF	$
Note: Any pipe excavation above 24" or digging item deeper than 12' is on an individual quote basis.				
			SUM TOTAL SECTION F:	$

NO.	ITEM	UOM	QTY	PRICE
Section G - Sanitary Manhole Replacement				
169	Internal reconnects	1	EA	$
170	Man Entry Internal reconnects	1	EA	$
171	Remove and replace cleanout	1	EA	$
172	Repair/Rehab 2" Asphalt pavement	1	SY	$
173	Repair/Rehab 8" Flex base	1	SY	$
174	Repair/Rehab 8" Concrete pavement	1	SY	$
175	Repair/Rehab 6" Concrete driveway	1	SF	$
176	Repair/Rehab 4" Concrete sidewalk	1	SF	$
177	Repair/Rehab Concrete curb and gutter	1	LF	$
178	Sod	1	SY	$
179	Hydromulch	1	SY	$

NO.	ITEM	UOM	QTY	PRICE
180	Top soil	1	CY	$
181	Grading	1	SY	$
182	Repair/Rehab chain link fence with new	1	LF	$
183	Repair/Rehab wooden fence with new	1	LF	$
184	Traffic control	1	Day	$
185	Traffic control - TXDOT or other State governed agency	1	Day	$
186	Flagmen	1	HR	$
187	Traffic Guard - Shadow Vehicle	1	Day	$
188	Lighted Arrow Board (Per Arrow Board)	1	Day	$
189	Traffic Control Plan (3rd Party Certified)	1	EA	$
190	Crane w/ Operator	1	Day	$
			SUM TOTAL SECTION G:	$

NO.	ITEM	UOM	QTY	PRICE
	Section H - HDPE Tight Fitting Liner (IPS diameters)			
191	2" x DR 32.5 Installation of pipe	1	LF	$
192	4" x DR 32.5 Installation of pipe	1	LF	$
193	6" x DR 32.5 Installation of pipe	1	LF	$
194	8" x DR 32.5 Installation of pipe	1	LF	$
195	10" x DR 32.5 Installation of pipe	1	LF	$
196	12" x DR 32.5 Installation of pipe	1	LF	$
197	15" x DR 32.5 Installation of pipe	1	LF	$
198	18" x DR 32.5 Installation of pipe	1	LF	$
199	21" x DR 32.5 Installation of pipe	1	LF	$
200	24" x DR 32.5 Installation of pipe	1	LF	$
201	27" x DR 32.5 Installation of pipe	1	LF	$
202	30" x DR 32.5 Installation of pipe	1	LF	$
203	33" x DR 32.5 Installation of pipe	1	LF	$
204	36" x DR 32.5 Installation of pipe	1	LF	$
205	42" x DR 32.5 Installation of pipe	1	LF	$
206	48" x DR 32.5 Installation of pipe	1	LF	$
207	2" to 4" DR standard drop increment (wall increase) PE80 grade	1	LF	$
208	2" to 4" DR standard drop increment (wall increase) PE100 grade	1	LF	$
209	5" to 8" DR standard drop increment (wall increase) PE80 grade	1	LF	$
210	5" to 8" DR standard drop increment (wall increase) PE100 grade	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
211	10" & 12" DR standard drop increment (wall increase) PE80 grade	1	LF	$
212	10" & 12" DR standard drop increment (wall increase) PE100 grade	1	LF	$
213	13" to 16" DR standard drop increment (wall increase) PE80 grade	1	LF	$
214	13" to 16" DR standard drop increment (wall increase) PE100 grade	1	LF	$
215	18" to 20" DR standard drop increment (wall increase) PE80 grade	1	LF	$
216	18" to 20" DR standard drop increment (wall increase) PE100 grade	1	LF	$
217	21" to 24" DR standard drop increment (wall increase) PE80 grade	1	LF	$
218	21" to 24" DR standard drop increment (wall increase) PE100 grade	1	LF	$
219	26" to 30" DR standard drop increment (wall increase) PE80 grade	1	LF	$
220	26" to 30" DR standard drop increment (wall increase) PE100 grade	1	LF	$
221	32" to 36" DR standard drop increment (wall increase) PE80 grade	1	LF	$
222	32" to 36" DR standard drop increment (wall increase) PE100 grade	1	LF	$
223	42" to 48" DR standard drop increment (wall increase) PE80 grade	1	LF	$
224	42" to 48" DR standard drop increment (wall increase) PE100 grade	1	LF	$
225	2" to 4" Polyethylene flange	1	EA	$
226	5" to 8" Polyethylene flange	1	EA	$
227	10" & 12" Polyethylene flange	1	EA	$
228	13" to 16" Polyethylene flange	1	EA	$
229	18" to 20" Polyethylene flange	1	EA	$
230	21" to 24" Polyethylene flange	1	EA	$
231	26" to 30" Polyethylene flange	1	EA	$
232	32" to 36" Polyethylene flange	1	EA	$
233	42" to 48" Polyethylene flange	1	EA	$
234	2" to12" Tite Liner set-up charge Per Install Length	1	LF	$
235	13" to 24" Tite Liner set-up charge Per Install Length	1	LF	$
236	26" to 48" Tite Liner set-up charge Per Install Length	1	LF	$
			SUM TOTAL SECTION H:	$

NO.	ITEM	UOM	QTY	PRICE
	Section I - Pipe Rehab by Carbon/Glass Fiber Reinforced Polymers			
237	30" Basic Repair	1	LF	$
238	30" Additional GFRP Layer	1	LF	$
239	30" Additional CFRP Layer	1	LF	$
240	36" Basic Repair	1	LF	$
241	36" Additional GFRP Layer	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
242	36" Additional CFRP Layer	1	LF	$
243	42" Basic Repair	1	LF	$
244	42" Additional GFRP Layer	1	LF	$
245	42" Additional CFRP Layer	1	LF	$
246	48" Basic Repair	1	LF	$
247	48" Additional GFRP Layer	1	LF	$
248	48" Additional CFRP Layer	1	LF	$
249	54" Basic Repair	1	LF	$
250	54" Additional GFRP Layer	1	LF	$
251	54" Additional CFRP Layer	1	LF	$
252	60" Basic Repair	1	LF	$
253	60" Additional GFRP Layer	1	LF	$
254	60" Additional CFRP Layer	1	LF	$
255	66" Basic Repair	1	LF	$
256	66" Additional GFRP Layer	1	LF	$
257	66" Additional CFRP Layer	1	LF	$
258	72" Basic Repair	1	LF	$
259	72" Additional GFRP Layer	1	LF	$
260	72" Additional CFRP Layer	1	LF	$
261	84" Basic Repair	1	LF	$
262	84" Additional GFRP Layer	1	LF	$
263	84" Additional CFRP Layer	1	LF	$
264	96" Basic Repair	1	LF	$
265	96" Additional GFRP Layer	1	LF	$
266	96" Additional CFRP Layer	1	LF	$
Note: Any FRP pipe repair above 96" is on an individual quote basis				
			SUM TOTAL SECTION I:	$

NO.	ITEM	UOM	QTY	PRICE
Section J - CIPP Pressure Pipe Lining For Potable and Non-Potable Pressure Pipe				
Potable Pressure Pipelines				
267	6" Installation of Pressure Pipe Lining	1	LF	$
268	8" Installation of Pressure Pipe Lining	1	LF	$
269	10" Installation of Pressure Pipe Lining	1	LF	$
270	12" Installation of Pressure Pipe Lining	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
271	15" Installation of Pressure Pipe Lining	1	LF	$
272	18" Installation of Pressure Pipe Lining	1	LF	$
273	21" Installation of Pressure Pipe Lining	1	LF	$
274	24" Installation of Pressure Pipe Lining	1	LF	$
275	27" Installation of Pressure Pipe Lining	1	LF	$
276	30" Installation of Pressure Pipe Lining	1	LF	$
277	36" Installation of Pressure Pipe Lining	1	LF	$
Non-Potable Pressure Pipelines				
278	6" Reinforced Pressure Pipe Lining	1	LF	$
279	8" Reinforced Pressure Pipe Lining	1	LF	$
280	10" Reinforced Pressure Pipe Lining	1	LF	$
281	12" Reinforced Pressure Pipe Lining	1	LF	$
282	15" Reinforced Pressure Pipe Lining	1	LF	$
283	18" Reinforced Pressure Pipe Lining	1	LF	$
284	21" Reinforced Pressure Pipe Lining	1	LF	$
285	24" Reinforced Pressure Pipe Lining	1	LF	$
286	27" Reinforced Pressure Pipe Lining	1	LF	$
287	30" Reinforced Pressure Pipe Lining	1	LF	$
288	36" Reinforced Pressure Pipe Lining	1	LF	$
289	6" Installation of End Seal	1	EA	$
290	8" Installation of End Seal	1	EA	$
291	10" Installation of End Seal	1	EA	$
292	12" Installation of End Seal	1	EA	$
293	15" Installation of End Seal	1	EA	$
294	18" Installation of End Seal	1	EA	$
295	21" Installation of End Seal	1	EA	$
296	24" Installation of End Seal	1	EA	$
297	27" Installation of End Seal	1	EA	$
298	30" Installation of End Seal	1	EA	$
299	36" Installation of End Seal	1	EA	$
300	6" to 12" System set-up charge Per Install Length	1	LF	$
301	15" to 24" System set-up charge Per Install Length	1	LF	$
302	24" to 30" System set-up charge Per Install Length	1	LF	$
303	Internal Reconnect for CIPP Pressure Pipe	1	EA	$
304	6" to 12" Install Spool Piece for Pressure Pipe	1	EA	$

NO.	ITEM	UOM	QTY	PRICE
305	15" to 21" Install Spool Piece for Pressure Pipe	1	EA	$
306	24" to 30" Install Spool Piece for Pressure Pipe	1	EA	$
307	36" Install Spool Piece for Pressure Pipe (up to 20LF)	1	EA	$
Note: Any pressure pipe lining above 36" is on an individual quote basis.				
			SUM TOTAL SECTION J:	$

NO.	ITEM	UOM	QTY	PRICE
Section K - Pressure Pipeline Bypass				
308	Set up bypass of mainlines sizes 2"- 4" AWWA approved bypass	1	LF	$
309	Connection of each service from 2"- 4" AWWA approved bypass	1	EA	$
310	Operation of 2"- 4" AWWA approved bypass	1	Day	$
311	Set up bypass of mainlines sizes 6"- 8" AWWA approved bypass	1	LF	$
312	Connection of each service from 6"- 8" AWWA approved bypass	1	EA	$
313	Operation of 6"- 8" AWWA approved bypass	1	Day	$
314	Set up bypass of mainlines sizes 10"- 12" AWWA approved bypass	1	LF	$
315	Connection of each service from 10"- 12" AWWA approved bypass	1	EA	$
316	Operation of 10"- 12" AWWA approved bypass	1	Day	$
317	Set up bypass of mainlines sizes 13"- 19" AWWA approved bypass	1	LF	$
318	Connection of each service from 13"- 19" AWWA approved bypass	1	EA	$
319	Operation of 13"- 19" AWWA approved bypass	1	Day	$
320	Set up bypass of mainlines sizes 20"- 24" AWWA approved bypass	1	EA	$
321	Connection of each service from 20"- 24" AWWA approved bypass	1	EA	$
322	Operation of 20"- 24" AWWA approved bypass	1	Day	$
			SUM TOTAL SECTION K:	$

NO.	ITEM	UOM	QTY	PRICE
Section L - Line Cleaning and Inspection for Pressure Pipelines & Mechanical Cleaning				
323	6" Cleaning with pressure propelled pigs	1	LF	$
324	8" Cleaning with pressure propelled pigs	1	LF	$
325	10" Cleaning with pressure propelled pigs	1	LF	$
326	12" Cleaning with pressure propelled pigs	1	LF	$
327	15" Cleaning with pressure propelled pigs	1	LF	$
328	18" Cleaning with pressure propelled pigs	1	LF	$
329	21" Cleaning with pressure propelled pigs	1	LF	$
330	24" Cleaning with pressure propelled pigs	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
331	30" Cleaning with pressure propelled pigs	1	LF	$
332	36" Cleaning with pressure propelled pigs	1	LF	$
333	6" Set up, Install and Remove Pig Launcher	1	EA	$
334	8" Set up, Install and Remove Pig Launcher	1	EA	$
335	10" Set up, Install and Remove Pig Launcher	1	EA	$
336	12" Set up, Install and Remove Pig Launcher	1	EA	$
337	15" Set up, Install and Remove Pig Launcher	1	EA	$
338	18" Set up, Install and Remove Pig Launcher	1	EA	$
339	21" Set up, Install and Remove Pig Launcher	1	EA	$
340	24" Set up, Install and Remove Pig Launcher	1	EA	$
341	30" Set up, Install and Remove Pig Launcher	1	EA	$
342	36" Set up, Install and Remove Pig Launcher	1	EA	$
343	6" Cleaning with scrapers or other attached tools	1	LF	$
344	8" Cleaning with scrapers or other attached tools	1	LF	$
345	10" Cleaning with scrapers or other attached tools	1	LF	$
346	12" Cleaning with scrapers or other attached tools	1	LF	$
347	15" Cleaning with scrapers or other attached tools	1	LF	$
348	18" Cleaning with scrapers or other attached tools	1	LF	$
349	21" Cleaning with scrapers or other attached tools	1	LF	$
350	24" Cleaning with scrapers or other attached tools	1	LF	$
351	30" Cleaning with scrapers or other attached tools	1	LF	$
352	36" Cleaning with scrapers or other attached tools	1	LF	$
353	6" Pressure pipe inspection	1	LF	$
354	8" Pressure pipe inspection	1	LF	$
355	10" Pressure pipe inspection	1	LF	$
356	12" Pressure pipe inspection	1	LF	$
357	15" Pressure pipe inspection	1	LF	$
358	18" Pressure pipe inspection	1	LF	$
359	21" Pressure pipe inspection	1	LF	$
360	24" Pressure pipe inspection	1	LF	$
361	30" Pressure pipe inspection	1	LF	$
362	36" Pressure pipe inspection	1	LF	$
363	Tuberculation Removal (Pressure & Gravity Pipelines)	1	IN/DIA/LF	$
Note: Any line cleaning and inspection of pressure pipe over 36" is on an individual quote basis.				
			SUM TOTAL SECTION L:	$

NO.	ITEM	UOM	QTY	PRICE
Section M - Gravity Sewer Lateral Renewal Systems				
364	4"-6" Internal installation and cure of "T" shaped structure (from main <12"dia)	1	EA	$
365	4"-6" Internal installation and cure of top hat shaped structure (from main <12"dia)	1	EA	$
366	4"-6" Installation and cure of structural lateral liner from main <12" dia.	1	LF	$
367	4"-6" Installation and cure of structural lateral liner from surface clean out to main	1	LF	$
368	4"-6" Set-up for installations of <20 each total	1	EA	$
369	4"-6" Set-up for installations of 20-50 each total	1	EA	$
370	4"-6" Set-up for installations of 50-100 each total	1	EA	$
371	4"-6" Set-up for installations of 100-150 each total (>150 no set-up will apply)	1	EA	$
			SUM TOTAL SECTION M:	$

NO.	ITEM	UOM	QTY	PRICE
Section N - Manhole, Access Portals and Wet Well Renewal Systems				
372	All Sizes Installation and cure of manhole lining structure depth <10 vf	1	SQFT	$
373	All Sizes Installation and cure of manhole lining structure depth +10 vf <20 vf	1	SQFT	$
374	All Sizes Installation and cure of manhole lining structure depth +20 vf <40 vf	1	SQFT	$
375	All Sizes Set-up for install and cure of manhole lining structure <1000 sq ft	1	SQFT	$
376	All Sizes Installation of Manhole Chimney Seal	1	EA	$
377	New manhole frame and cover	1	EA	$
378	Premium manhole frame and cover (i.e. CertainTeed PAM locking units etc.)	1	EA	$
379	Adjust manhole frame and cover	1	EA	$
380	Manhole Rehabilitation - cementitious	1	SQFT	$
381	Manhole Rehabilitation - epoxy	1	SQFT	$
382	Manhole, Pipe or Other Structures - Spray Rehabilitation	1	SQFT	$
383	Manhole Rehabilitation - modified polymer	1	SQFT	$
384	Manhole Bench Rehabilitation - cementitious	1	SQFT	$
385	Manhole Bench Rehabilitation - epoxy/modified polymer	1	SQFT	$
386	Manhole Bench Rebuild	1	EA	$
387	Mechanical Repairs (per person)	1	HR	$
388	Injection grouting in MH	1	Gal	$
389	Void filling with cementitious material	1	CF	$
390	Setup for void filling	1	EA	$

NO.	ITEM	UOM	QTY	PRICE
391	Access beyond 100' from road	1	EA	$
392	Vacuum test MH	1	EA	$
			SUM TOTAL SECTION N:	$

NO.	ITEM	UOM	QTY	PRICE
	Section O - All Other Underground Construction Items and Supplemental Items for This Contract			
395	Internal Point Repair CIPP 6"-8" (Up to 8 LF)	1	EA	$
396	Internal Point Repair CIPP 10"-12" (Up to 8 LF)	1	EA	$
397	Internal Point Repair CIPP 15"-18" (Up to 8 LF)	1	EA	$
398	Internal Point Repair CIPP 21"-24" (Up to 8 LF)	1	EA	$
399	Internal Point Repair CIPP 27"-33" (Up to 8 LF)	1	EA	$
400	Internal Point Repair CIPP 36"- 42" (Up to 8 LF)	1	EA	$
401	Internal Point Repair Mechanical 6"-8" (Up to 6 LF)	1	EA	$
402	Internal Point Repair Mechanical 10"-12" (Up to 6 LF)	1	EA	$
403	Internal Point Repair Mechanical 15"-18" (Up to 6 LF)	1	EA	$
404	Internal Point Repair Mechanical 21"-24" (Up to 6 LF)	1	EA	$
405	Internal Point Repair Mechanical 27"-33" (Up to 6 LF)	1	EA	$
406	Internal Point Repair Mechanical 36"- 42" (Up to 6 LF)	1	EA	$
407	Internal Point Repair Mechanical or Other Method up to 108" Nominal Diameter (Up to 6 LF)	1	EA	$
408	Large Diameter Invert Repair Interior (Flow Fill or Other Material)	1	CF	$
409	Void Filling Exterior of Pipe or Structure (Flow Fill or Other Material)	1	CF	$
410	Pipe or Other Confined Space Man Entry Safety System	1	DAY	$
411	Confined Space Man Entry Safety Plan (3rd Party Certified)	1	EA	$
			SUM TOTAL SECTION O:	$

NO.	ITEM	UOM	QTY	PRICE
	Section P - Fusible PVC Installation by HDD or Other Means			
412	2"-4" Installation of pipe clay ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
413	2"-4" Installation of pipe loose sand ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
414	2"-4" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	1	IN/DIA/LF	$
415	2"-4" Installation of pipe rock ground conditions 3000-8000 psi (pipe cost excluded)	1	IN/DIA/LF	$
416	2"-4" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	1	IN/DIA/LF	$
417	6"-8" Installation of pipe clay ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
418	6"-8" Installation of pipe loose sand ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
419	6"-8" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	1	IN/DIA/LF	$
420	6"-8" Installation of pipe rock ground conditions 3000-8000 psi (pipe cost excluded)	1	IN/DIA/LF	$

NO.	ITEM	UOM	QTY	PRICE
421	6"-8" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	1	IN/DIA/LF	$
422	10"-12" Installation of pipe clay ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
423	10"-12" Installation of pipe loose sand ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
424	10"-12" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	1	IN/DIA/LF	$
425	10"-12" Installation of pipe rock ground conditions 3000-8000 psi (pipe cost excluded)	1	IN/DIA/LF	$
426	10"-12" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	1	IN/DIA/LF	$
427	14"-18" Installation of pipe clay ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
428	14"-18" Installation of pipe loose sand ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
429	14"-18" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	1	IN/DIA/LF	$
430	14"-18" Installation of pipe rock ground conditions 3000-8000 psi (pipe cost excluded)	1	IN/DIA/LF	$
431	14"-18" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	1	IN/DIA/LF	$
432	20"- 24" Installation of pipe clay ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
433	20"- 24" Installation of pipe loose sand ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
434	20"- 24" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	1	IN/DIA/LF	$
435	20"- 24" Installation of pipe rock ground conditions 3000-8000 psi (pipe cost excluded)	1	IN/DIA/LF	$
436	20"- 24" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	1	IN/DIA/LF	$
437	27"- 36" Installation of pipe clay ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
438	27"- 36" Installation of pipe loose sand ground conditions (pipe cost excluded)	1	IN/DIA/LF	$
439	27"- 36" Installation of pipe rock ground conditions<3000 psi (pipe cost excluded)	1	IN/DIA/LF	$
440	27"- 36" Installation of pipe rock ground conditions 3000-8000 psi (pipe cost excluded)	1	IN/DIA/LF	$
441	27"- 36" Installation of pipe ground conditions per 1000 psi increase over 8000 psi	1	IN/DIA/LF	$
442	Short Length Setup < 100 LF	1	IN/DIA/LF	$
443	All Sizes Increase for extraordinary drilling conditions (may be applied to each dia.)	1	IN/DIA/LF	$
444	4" DR 14 DIPS Fusible PVC®	1	LF	$
445	4" DR 18 DIPS Fusible PVC®	1	LF	$
446	6" DR 14 DIPS Fusible PVC®	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
447	6" DR 18 DIPS Fusible PVC®	1	LF	$
448	6" DR 25 DIPS Fusible PVC®	1	LF	$
449	8" DR 14 DIPS Fusible PVC®	1	LF	$
450	8" DR 18 DIPS Fusible PVC®	1	LF	$
451	8" DR 25 DIPS Fusible PVC®	1	LF	$
452	10" DR 14 DIPS Fusible PVC®	1	LF	$
453	10" DR 18 DIPS Fusible PVC®	1	LF	$
454	10" DR 25 DIPS Fusible PVC®	1	LF	$
455	12" DR 14 DIPS Fusible PVC®	1	LF	$
456	12" DR 18 DIPS Fusible PVC®	1	LF	$
457	12" DR 25 DIPS Fusible PVC®	1	LF	$
458	14" DR 14 DIPS Fusible PVC®	1	LF	$
459	14" DR 18 DIPS Fusible PVC®	1	LF	$
460	14" DR 21 DIPS Fusible PVC®	1	LF	$
461	14" DR 25 DIPS Fusible PVC®	1	LF	$
462	16" DR 14 DIPS Fusible PVC®	1	LF	$
463	16" DR 18 DIPS Fusible PVC®	1	LF	$
464	16" DR 21 DIPS Fusible PVC®	1	LF	$
465	16" DR 25 DIPS Fusible PVC®	1	LF	$
466	18" DR 18 DIPS Fusible PVC®	1	LF	$
467	18" DR 21 DIPS Fusible PVC®	1	LF	$
468	18" DR 25 DIPS Fusible PVC®	1	LF	$
469	20" DR 14 DIPS Fusible PVC®	1	LF	$
470	20" DR 18 DIPS Fusible PVC®	1	LF	$
471	20" DR 21 DIPS Fusible PVC®	1	LF	$
472	20" DR 25 DIPS Fusible PVC®	1	LF	$
473	24" DR 18 DIPS Fusible PVC®	1	LF	$
474	24" DR 21 DIPS Fusible PVC®	1	LF	$
475	24" DR 25 DIPS Fusible PVC®	1	LF	$
476	24" DR 32.5 DIPS Fusible PVC®	1	LF	$
477	30" DR 21 DIPS Fusible PVC®	1	LF	$
478	30" DR 25 DIPS Fusible PVC®	1	LF	$
479	30" DR 32.5 DIPS Fusible PVC®	1	LF	$
480	36" DR 21 DIPS Fusible PVC®	1	LF	$
481	36" DR 25 DIPS Fusible PVC®	1	LF	$

NO.	ITEM	UOM	QTY	PRICE
482	36" DR 32.5 DIPS Fusible PVC®	1	LF	$
483	Freight for Fusible PVC®	1	Per Truck	$
484	Mobilization/Demobilization for Fusible PVC®	1	Per Event	$
485	Fusion Services for 4"-12" Fusible PVC®	1	Day	$
486	Fusion Services for 14"-16" Fusible PVC®	1	Day	$
487	Fusion Services for 18"- 24" Fusible PVC®	1	Day	$
488	Fusion Services for 30"- 36" Fusible PVC®	1	Day	$
489	Pressure testing	1	IN/DIA/LF	$
490	Install Fire Hydrant	1	EA	$
491	Ductile Iron Fittings, Restraints, Hardware	1	LB	$
492	3-Way Fire Hydrant Assembly	1	EA	$
493	Salvage Existing Fire Hydrant	1	EA	$
494	12 Ga. Tracer Wire	1	LF	$
495	Connect to Existing Water Meter(include new angle valve)	1	EA	$
496	Furnish & Install New Water Meter & Box	1	EA	$
497	Remove Existing Valve & Box	1	EA	$
498	Resilient Seat Gate Valve & Box	1	EA	$
499	1-Inch HDPE Potable Water Service Line (Short Service) including new angle stop	1	LF	$
500	1-Inch HDPE Potable Water Service Line (Long Service) including new angle stop	1	LF	$
			SUM TOTAL SECTION P:	$

NO.	ITEM	UOM	QTY	PRICE
	Section Q - Right-of-Way Maintenance			
501	ROW Clearing - (typical up to 20 feet wide)	1	LF	$
502	ROW Maintenance - (typical up to 20 feet wide)	1	LF	$
503	Tree removal and disposal 1" - 6"	1	EA	$
504	Tree removal and disposal 6" - 12"	1	EA	$
505	Install 14' Gate	1	EA	$
506	Technical Field Support	1	HR	$
			SUM TOTAL SECTION Q:	$

NO.	ITEM	UOM	QTY	PRICE
Section R - Crew Travel & Mobilization				
507	Travel and Mobilization	1	EA	$
508	Travel and Mobilization	1	EA	$
			SUM TOTAL SECTION R:	$

NO.	ITEM	UOM	QTY	PRICE
Section S - Geopolymer Storm Pipe & Culvert Lining				
509	30" Storm Pipe - Minimum 1.0"	1	LF	$
510	36" Storm Pipe - Minimum 1.0"	1	LF	$
511	42" Storm Pipe - Minimum 1.0"	1	LF	$
512	48" Storm Pipe - Minimum 1.0"	1	LF	$
513	54" Storm Pipe - Minimum 1.5"	1	LF	$
514	60" Storm Pipe - Minimum 1.5"	1	LF	$
515	66" Storm Pipe - Minimum 1.5"	1	LF	$
516	72" Storm Pipe - Minimum 1.5"	1	LF	$
517	78" Storm Pipe - Minimum 1.5"	1	LF	$
518	84" Storm Pipe - Minimum 1.5"	1	LF	$
519	90" Storm Pipe - Minimum 1.5"	1	LF	$
520	96" Storm Pipe - Minimum 1.5"	1	LF	$
521	Short length setup add-on	1	IN/DIA/LF	$
522	Additional 1.0" thickness	1	SF	$
523	#3 Steel Rebar on 18" Centers for 30" Pipe	1	LF	$
524	#3 Steel Rebar on 18" Centers for 36" Pipe	1	LF	$
525	#3 Steel Rebar on 18" Centers for 42" Pipe	1	LF	$
526	#3 Steel Rebar on 18" Centers for 48" Pipe	1	LF	$
527	#3 Steel Rebar on 18" Centers for 54" Pipe	1	LF	$
528	#3 Steel Rebar on 18" Centers for 60" Pipe	1	LF	$
529	#3 Steel Rebar on 18" Centers for 66" Pipe	1	LF	$
530	#3 Steel Rebar on 18" Centers for 72" Pipe	1	LF	$
531	#3 Steel Rebar on 18" Centers for 78" Pipe	1	LF	$
532	#3 Steel Rebar on 18" Centers for 84" Pipe	1	LF	$
533	#3 Steel Rebar on 18" Centers for 90" Pipe	1	LF	$
534	#3 Steel Rebar on 18" Centers for 96" Pipe	1	LF	$
535	Invert Repair	1	LF	$
536	Hydraulic Jacking of CMP	1	LF	$
537	6" Thickness Concrete Flatwork	1	SF	$
538	Rip Rap Supply and Install	1	CF	$

NO.	ITEM	UOM	QTY	PRICE
539	Void Grouting with Cementitious Grout	1	CF	$
			SUM TOTAL SECTION S:	$

Attachment "A" RS Means Current Edition Facilities Construction Cost Data Book, latest edition. Stated Discount or Coefficent from "Total incl O&P" COLUMN				
			Multiplier	1.50
Attachment "B" RS Means Current Edition Heavy Construction Cost Data Book, latest edition. Stated Discount or Coefficent from "Total incl O&P" COLUMN				
			Multiplier	1.50

BID FORM SIGNATURE PAGE

The Contractor agrees to provide the service, and/or supplies as described in this solicitation and subject, without limitation, to all specifications, terms, and conditions herein contained. Bidder shall acknowledge receipt of each addendum issued in the space provided on the bid form.

X____

(Signature and Title)

CORPORATE SEAL
(If available)

BID MUST BE SIGNED AND NOTARIZED (WITH SEAL) FOR CONSIDERATION

Subscribed and sworn to before me this _______ day of ___________________________ AD, 20_______

____ My Commission Expires: _________________________
(Notary Public)

____
SEAL

MANDATORY FORM

TRENCHLESS REHABILITATION AND MAINTENANCE OF PIPELINE INFRASTRUCTURE 23-065-PW

(PLEASE TYPE OR PRINT THE FOLLOWING INFORMATION)

Full Name of Bidder			
Main Business Address			
City, State, Zip Code			
Telephone Number		Email Address	
Bid Contact Person			

The undersigned certifies that he is:

❑ the Owner/Sole Proprietor ❑ a Member authorized to sign on behalf of the Partnership ❑ an Officer of the Corporation ❑ a Member of the Joint Venture

Herein after called the Bidder and that the members of the Partnership or Officers of the Corporation are as follows:

______________________________ (President or Partner) ______________________________ (Vice-President or Partner)

______________________________ (Secretary or Partner) ______________________________ (Treasurer or Partner)

Further, the undersigned declares that the only person or parties interested in this bid as principals are those named herein; that this bid is made without collusion with any other person, firm or corporation; that he has fully examined the proposed forms of agreement and the contract specifications for the above designated purchase, all of which are on file in the office of the Procurement Officer, DuPage County, 421 North County Farm Road, Wheaton, Illinois 60187, and all other documents referred to or mentioned in the contract documents, specifications and attached exhibits, including

Addenda No. __, ______, ____, and ____ issued thereto.

Further, the undersigned proposes and agrees, if this bid is accepted, to provide all necessary machinery, tools, apparatus, and other means of construction, including transportation services necessary to furnish all the materials and equipment specified or referred to in the contract documents in the manner and time therein prescribed.

Further, the undersigned certifies and warrants that he is duly authorized to execute this certification/affidavit on behalf of the Bidder and in accordance with the Partnership Agreement or by-laws of the Corporation, and the laws of the State of Illinois and that this Certification is binding upon the Bidder and is true and accurate.

Further, the undersigned certifies that the Bidder is not barred from bidding on this contract as a result of a violation of either 720 Illinois Compiled Statutes 5/33 E-3 or 5/33 E-4, bid rigging or bid-rotating, or as a result of a violation of 820 ILCS 130/1 et seq., the Illinois Prevailing Wage Act.

The undersigned certifies that he has examined and carefully prepared this bid and has checked the same in detail before submitting this bid, and that the statements contained herein are true and correct.

If a Corporation, the undersigned, further certifies that the recitals and resolutions attached hereto and made a part hereof were properly adopted by the Board of Directors of the Corporation at a meeting of said Board of Directors duly called and held and have not been repealed nor modified, and that the same remain in full force and effect. (Bidder may be requested to provide a copy of the corporate resolution granting the individual executing the contract documents authority to do so.)

Further, the Bidder certifies that he has provided equipment, supplies, or services comparable to the items specified in this contract to the parties listed in the reference section below and authorizes the County to verify references of business and credit at its option.

Finally, the Bidder, if awarded the contract, agrees to do all other things required by the contract documents, and that he will take in full payment therefore the sums set forth in the bidding schedule (subject to unit quantity adjustments based upon actual usage).

CONTRACT ADMINISTRATION INFORMATION:

CORRESPONDENCE TO CONTRACTOR:		REMIT TO CONTRACTOR:	
NAME		NAME	
CONTACT		CONTACT	
ADDRESS		ADDRESS	
CITY ST ZIP		CITY ST ZIP	
TX		TX	
FX		FX	
EMAIL		EMAIL	
COUNTY BILL TO INFORMATION:		COUNTY SHIP TO INFORMATION:	
Address to be provided once notice to proceed is issued.		Address to be provided once notice to proceed is issued.	

ALL MATERIALS MUST BE BID AND SHIPPED F.O.B. DELIVERED (FREIGHT INCLUDED IN PRICE)

REFERENCES

The bidder must list three (3) references, listing firm name, address, telephone number and contact person to whom they have provided similar equipment, material or services for a period of not less than six (6) months.

COMPANY NAME:	
ADDRESS:	
CONTACT PERSON:	
TELEPHONE NUMBER:	

COMPANY NAME:	
ADDRESS:	
CONTACT PERSON:	
TELEPHONE NUMBER:	

COMPANY NAME:	
ADDRESS:	
CONTACT PERSON:	
TELEPHONE NUMBER:	

Required Vendor Ethics Disclosure Statement

Failure to complete and return this form may result in delay or cancellation of the County's Contractual Obligation.

Date: ______________

Bid/Contract/PO #: ______________

Company Name:	Company Contact:
Contact Phone:	Contact Email:

The DuPage County Procurement Ordinance requires the following written disclosures prior to award:

1. Every contractor, union, or vendor that is seeking or has previously obtained a contract, change orders to one (1) or more contracts, or two (2) or more individual contracts with the county resulting in an aggregate amount at or in excess of $25,000, shall provide to Procurement Services Division a written disclosure of all political campaign contributions made by such contractor, union, or vendor within the current and previous calendar year to any incumbent county board member, county board chairman, or countywide elected official whose office the contract to be awarded will benefit. The contractor, union or vendor shall update such disclosure annually during the term of a multi-year contract and prior to any change order or renewal requiring approval by the county board. For purposes of this disclosure requirement, "contractor or vendor" includes owners, officers, managers, lobbyists, agents, consultants, bond counsel and underwriters counsel, subcontractors and corporate entities under the control of the contracting person, and political action committees to which the contracting person has made contributions.

☐ **NONE (check here) - If no contributions have been made**

Recipient	Donor	Description (e.g. cash, type of item, in-kind services, etc.)	Amount/Value	Date Made

2. All contractors and vendors who have obtained or are seeking contracts with the county shall disclose the names and contact information of their lobbyists, agents and representatives and all individuals who are or will be having contact with county officers or employees in relation to the contractor bid and shall update such disclosure with any changes that may occur.

☐ **NONE (check here) - If no contacts have been made**

Lobbyists, Agents and Representatives and all individuals who are or will be having contact with county officers or employees in relation to the contract or bid	Telephone	Email

A contractor or vendor that knowingly violates these disclosure requirements is subject to penalties which may include, but are not limited to, the immediate cancellation of the contract and possible disbarment from future county contracts.

Continuing disclosure is required, and I agree to update this disclosure form as follows:

- If information changes, within five (5) days of change, or prior to county action, whichever is sooner
- 30 days prior to the optional renewal of any contract
- Annual disclosure for multi-year contracts on the anniversary of said contract
- With any request for change order except those issued by the county for administrative adjustments

The full text for the county's ethics and procurement policies and ordinances are available at:
https://www.dupageco.org/CountyBoard/Policies/

I hereby acknowledge that I have received, have read, and understand these requirements.

Authorized Signature ______________________________

Printed Name ______________________________

Title ______________________________

Date ______________________________

Attach additional sheets if necessary. Sign each sheet and number each page. PAGE 1 OF 1 (total number of pages)

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type.
See **Specific Instructions** on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ ________

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) ________

Exemption from FATCA reporting code (if any) ________

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

☐☐☐ – ☐☐ – ☐☐☐☐

or

Employer identification number

☐☐ – ☐☐☐☐☐☐☐

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person ▶** **Date ▶**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

Apprenticeship or Training Program Certification

Return to Buyer and with Bid

COMPANY NAME: ____

All contractors are required to complete the following certification:

☐ For this contract proposal or for all groups in this deliver and install

☐ proposal.For the following deliver and install groups in this material

proposal:

____

____

____

____

The County of DuPage policy, adopted in accordance with the provisions of DuPage County, Illinois County Code requires this contract to be awarded to the lowest responsive and responsible bidder. The award decision is subjectto approval by the Department. In addition to all other responsibility factors, this contract or deliver and install proposal requires all bidders and all bidders' subcontractors to disclose participation in apprenticeship or training programs that are.

(1) approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training,and

(2) applicable to the work of the above indicated proposals or groups. Therefore, all bidders are required to complete the following certification:

I. Except as provided in paragraph IV below, the undersigned bidder certifies that it is a participant, either asan individual or as part of a group program, in an approved apprenticeship or training program applicable to each type of work or craft that the bidder will perform with its own employees.

II. The undersigned bidder further certifies for work to be performed by subcontract that each of its subcontractors submitted for approval either (A) is, at the time of such bid, participating in an approved, applicable apprenticeship or training program; or (B) will, prior to commencement of performance of work pursuant to this contract, establish participation in an approved apprenticeship or training programapplicable to the work of the subcontract.

III. The undersigned bidder, by inclusion in the list in the space below, certifies the official name of each program sponsor holding the Certificate of Registration for all the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's employees. Types of work or craft that will be subcontracted shall be included and listed as subcontract work. The list shall also indicate any type of work or craft job category for which there is no applicable apprenticeship or training program available.

____

____

____

____

IV. Except for any work identified above, any bidder or subcontractor that shall perform all or part of the work of the contract or deliver and install proposal solely by individual owners, partners, or member and not by employees to whom the payment of prevailing rates of wages would be required, check the following box, and identify the owner/operator workforce and positions of ownership.

____

____

____

____

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed. The Department at any time before or after award may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all its subcontractors. To fulfill the participation requirement, it shall not be necessary that any applicable program sponsor be currently taking or that it will takeapplications for apprenticeship, training or employment during the performance of the work of this contract or deliver and install proposal.

Bidder: ________________________________ By: ________________________________
(Signature)

Address: ________________________________ Title: ________________________________

SECTION 9 - SAMPLE CONTRACT
CONTRACT XX-XXX-XXX BETWEEN [CONTRACTOR]
AND THE COUNTY OF DUPAGE

THIS AGREEMENT is entered into this___day of__, 2023, between the County of DuPage, Illinois a body corporate and politic, located at 421 North County Farm Road, Wheaton, Illinois, 60187-3978 (hereinafter referred to as the COUNTY), and___________, licensed to do business in the State of Illinois, located at ______,______,______(hereinafter referred to as the CONTRACTOR).

RECITALS

WHEREAS, the COUNTY requires the goods and/or services specified in RFP #XX-XXX-XX for its DuPage County ______________ Department located at 421 North County Farm Road, Wheaton, Illinois, 60187-3978.

WHEREAS, the CONTRACTOR is the vendor selected pursuant to the RFP process and is willing to perform under the terms of the RFP and this Contract.

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, the parties agree that:

1.0 CONTRACT DOCUMENTS

1.1 This Contract includes all the following component parts, all of which are fully incorporated herein and made a part of the obligations undertaken by the parties:

1.1.a Request for Proposal and Bid Information, including but not limited to:

- Instructions to Bidders
- General Conditions
- Special Conditions
- Specifications

1.1.b Offeror's Response, including but not limited to: Proposal Forms (including Certification/Proposal, Signature Affidavit including Proposal Pricing)

1.1.c County Purchase Order

1.2 All documents are or will be on file in the office of the Finance - Procurement, DuPage Administration, 421 North County Farm Road, Room 3-400, Wheaton, Illinois 60187.

1.3 In the event of a conflict between any of the above documents, the document control from top to bottom; i.e., "a" control over "b".

2.0 DURATION OF THIS CONTRACT

2.1 Unless terminated as provided in the RFP, the term of this Contract shall be a ______ year period beginning on XX-XX-XXXX and continuing through XX-XX-XXXX.

2.2 The Contract term is subject to renewal per the Bid Invitation Specifications. In no event, shall the term plus the renewals exceed four (4) years.

3.0 TERMINATION

3.1 Except as otherwise set forth in this AGREEMENT, either party shall have the right to terminate the work with the County t for any cause or without cause thirty (30) days after having served written notice upon the other party, except in the event of Vendor's insolvency, bankruptcy or receivership, in which case termination shall be effective immediately upon receipt of notice. The County shall have the right to terminate this Agreement for convenience. Any local agreements or work with Participating Public Agencies, to include the County, may survive at the discretion of the Participating Public Agency.

3.2 Upon such termination, the liabilities of the parties to this AGREEMENT shall cease, but they shall not be relieved of the duty to perform their obligations up to the date of termination, or to pay for deliverables tendered prior to termination. There shall be no termination expenses.

3.3 Upon termination of this AGREEMENT, all data, work products, reports and documents produced, because of this AGREEMENT shall become the property of the COUNTY. Further, Vendor shall provide all deliverables within fourteen (14) days of termination in accordance with the other provisions of this AGREEMENT.

4.0 PROPOSAL PRICES AND PAYMENT

4.1 The Contractor shall provide the required goods and or services described in the Proposal Specifications for the prices quoted on the Proposal Form.

4.2 The County shall make payment pursuant to the Illinois Local Government Prompt Payment Act, except that no payment shall be approved where the Contractor has failed to comply with certified payroll requirements of the Illinois Prevailing Wage Act or Davis Bacon Act.

5.0 AMENDMENTS

5.1 This Contract may be amended by agreement of both parties.

5.2 All amendments will conform to State of Illinois Statutes and County procedures for Change Orders.

6.0 CONTRACT ENFORCEMENT – ATTORNEY'S FEES

6.1 If the County is required to take legal action to enforce performance of any of the terms, provisions, covenants and conditions of this Contract, and by reason thereof, the County is required to use the services of an attorney, including the States Attorney, then the County shall be entitled to reasonable attorney's fees and all expenses and costs incurred by the County pertaining thereto and in enforcement of any remedy, including costs and fees relating to any appeal.

7.0 SEVERABILITY CLAUSE

7.1 If any section, paragraph, clause, phrase or portion of this Contract is for any reason determined by a court of competent jurisdiction to be invalid and unenforceable, such portion shall be deemed separate, distinct and an independent provision, and the court's determination shall not affect the validity or enforceability of the remaining portions of this Contract.

8.0 GOVERNING LAW

8.1 This Contract shall be governed by the laws of the State of Illinois both as to interpretation and enforcement. Venue for all disputes will be exclusively in the circuit court for the Eighteenth Judicial Circuit in DuPage County, Illinois and that Illinois law will control.

9.0 ENTIRE AGREEMENT

9.1 This Contract, including the documents listed in 1.0, contains the entire agreement between the parties.

9.2 There are no covenants, promises, conditions, or understandings; either oral or written, other than those contained herein.

IN WITNESS, WHEREOF, the parties set their hands and seals as of the date first written above.

THE COUNTY OF DUPAGE, ILLINOIS	**CONTRACTOR**
By: ______________________	By: SAMPLE CONTRACT - DO NOT SIGN
SIGNATURE	SIGNATURE
Mary Catherine Wells	
PRINTED NAME	PRINTED NAME
Acting Chief Procurement Officer	
PRINTED TITLE	PRINTED TITLE
DATE	DATE

SECTION 10 - OUTSIDE ENVELOPE BID LABEL

SEALED BID PROPOSAL

INVITATION #: 23-065-PW

DESCRIPTION: TRENCHLESS REHABILITATION AND MAINTENANCE OF PIPELINE INFRASTRUCTURE

OPENING DATE: 11/28/2023

OPENING TIME: 2:30 P.M.

COMPANY NAME: ____

DATED MATERIAL - DELIVER IMMEDIATELY

Please cut out and affix this proposal label (above)
to the outermost envelope of your proposal to help ensure proper delivery.

ATTACHMENT A

OMNIA PARTNERS

Requirements for National Cooperative Contract To Be Administered by OMNIA Partners

The following documents are used in evaluating and administering national cooperative contracts and are included for Supplier's review and response.

Exhibit A – Response for National Cooperative Contract

Exhibit B – Administration Agreement, Example

Exhibit C – Master Intergovernmental Cooperative Purchasing Agreement, Example

Exhibit D – Principal Procurement Agency Certificate, Example

Exhibit E – Contract Sales Reporting Template

Exhibit F – Federal Funds Certifications

Exhibit G – New Jersey Business Compliance

Exhibit H – Advertising Compliance Requirement

Exhibit A
Response for National Cooperative Contract

1.0 Scope of National Cooperative Contract

Capitalized terms not otherwise defined herein shall have the meanings given to them in the Master Agreement or in the Administration Agreement between Supplier and OMNIA Partners.

1.1 Requirement

The County of DuPage, IL (hereinafter defined and referred to as "Principal Procurement Agency"), on behalf of itself and the National Intergovernmental Purchasing Alliance Company, a Delaware corporation d/b/a OMNIA Partners, Public Sector ("OMNIA Partners"), is requesting proposals for Trenchless Rehabilitation and Maintenance of Pipeline Infrastructure. The intent of this Request for Proposal is any contract between Principal Procurement Agency and Supplier resulting from this Request for Proposal ("Master Agreement") be made available to other public agencies nationally, including state and local governmental entities, public and private primary, secondary and higher education entities, non-profit entities, and agencies for the public benefit ("Public Agencies"), through OMNIA Partners' cooperative purchasing program. The Principal Procurement Agency has executed a Principal Procurement Agency Certificate with OMNIA Partners, an example of which is included as Exhibit D, and has agreed to pursue the Master Agreement. Use of the Master Agreement by any Public Agency is preceded by their registration with OMNIA Partners as a Participating Public Agency in OMNIA Partners' cooperative purchasing program. Registration with OMNIA Partners as a Participating Public Agency is accomplished by Public Agencies entering into a Master Intergovernmental Cooperative Purchasing Agreement, an example of which is attached as Exhibit C, and by using the Master Agreement, any such Participating Public Agency agrees that it is registered with OMNIA Partners, whether pursuant to the terms of the Master Intergovernmental Purchasing Cooperative Agreement or as otherwise agreed to. The terms and pricing established in the resulting Master Agreement between the Supplier and the Principal Procurement Agency will be the same as that available to Participating Public Agencies through OMNIA Partners.

All transactions, purchase orders, invoices, payments etc., will occur directly between the Supplier and each Participating Public Agency individually, and neither OMNIA Partners, any Principal Procurement Agency nor any Participating Public Agency, including their respective agents, directors, employees or representatives, shall be liable to Supplier for any acts, liabilities, damages, etc., incurred by any other Participating Public Agency. Supplier is responsible for knowing the tax laws in each state.

This Exhibit A defines the expectations for qualifying Suppliers based on OMNIA Partners' requirements to market the resulting Master Agreement nationally to Public Agencies. Each section in this Exhibit A refers to the capabilities, requirements, obligations, and prohibitions of competing Suppliers on a national level in order to serve Participating Public Agencies through OMNIA Partners.

These requirements are incorporated into and are considered an integral part of this RFP. OMNIA Partners reserves the right to determine whether to make the Master Agreement awarded by the Principal Procurement Agency available to Participating Public Agencies, in its sole and absolute discretion, and any party submitting a response to this RFP acknowledges that any award by the Principal Procurement Agency does not obligate OMNIA Partners to make the Master Agreement available to Participating Procurement Agencies.

1.2 Marketing, Sales and Administrative Support

During the term of the Master Agreement OMNIA Partners intends to provide marketing, sales, partnership development and administrative support for Supplier pursuant to this section that directly promotes the Supplier's products and services to Participating Public Agencies through multiple channels, each designed to promote specific products and services to Public Agencies on a national basis.

OMNIA Partners will assign the Supplier a Director of Partner Development who will serve as the main point of contact for the Supplier and will be responsible for managing the overall relationship between the Supplier and OMNIA Partners. The Director of Partner Development will work with the Supplier to develop a comprehensive strategy to promote the Master Agreement and will connect the Supplier with appropriate stakeholders within OMNIA Partners including, Sales, Marketing, Contracting, Training, and Operations & Support.

The OMNIA Partners marketing team will work in conjunction with Supplier to promote the Master Agreement to both existing Participating Public Agencies and prospective Public Agencies through channels that may include:

A. Marketing collateral (print, electronic, email, presentations)

B. Website

C. Trade shows/conferences/meetings

D. Advertising

E. Social Media

The OMNIA Partners sales teams will work in conjunction with Supplier to promote the Master Agreement to both existing Participating Public Agencies and prospective Public Agencies through initiatives that may include:

A. Individual sales calls

B. Joint sales calls

C. Communications/customer service

D. Training sessions for Public Agency teams

E. Training sessions for Supplier teams

The OMNIA Partners contracting teams will work in conjunction with Supplier to promote the Master Agreement to both existing Participating Public Agencies and prospective Public Agencies through:

A. Serving as the subject matter expert for questions regarding joint powers authority and state statutes and regulations for cooperative purchasing
B. Training sessions for Public Agency teams
C. Training sessions for Supplier teams
D. Regular business reviews to monitor program success
E. General contract administration

Suppliers are required to pay an Administrative Fee of 3% of the greater of the Contract Sales under the Master Agreement and Guaranteed Contract Sales under this Request for Proposal. Supplier will be required to execute the OMNIA Partners Administration Agreement (Exhibit B). At Supplier's option, Suppliers may pay additional fees beyond administrative fees, such as technology fees, to OMNIA Partners and/or a third party for additional support and/or access to OMNIA Partners' technology platform.

1.3 Estimated Volume

The dollar volume purchased under the Master Agreement is estimated to be approximately $50M annually. While no minimum volume is guaranteed to Supplier, the estimated annual volume is projected based on the current annual volumes among the Principal Procurement Agency, other Participating Public Agencies that are anticipated to utilize the resulting Master Agreement to be made available to them through OMNIA Partners, and volume growth into other Public Agencies through a coordinated marketing approach between Supplier and OMNIA Partners.

1.4 Award Basis

The basis of any contract award resulting from this RFP made by Principal Procurement Agency will, at OMNIA Partners' option, be the basis of award on a national level through OMNIA Partners. If multiple Suppliers are awarded by Principal Procurement Agency under the Master Agreement, those same Suppliers will be required to extend the Master Agreement to Participating Public Agencies through OMNIA Partners. Utilization of the Master Agreement by Participating Public Agencies will be at the discretion of the individual Participating Public Agency. Certain terms of the Master Agreement specifically applicable to the Principal Procurement Agency (e.g., governing law) are subject to modification for each Participating Public Agency as Supplier and such Participating Public Agency may agree without being in conflict with the Master Agreement as a condition of the Participating Agency's purchase and not a modification of the Master Agreement applicable to all Participating Agencies. Participating Agencies may request to enter into a separate supplemental agreement to further define the level of service requirements over and above the minimum defined in the Master Agreement (e.g., governing law, invoice requirements, order requirements, specialized delivery, diversity requirements such as minority and woman owned businesses, historically underutilized business, etc.) ("Supplemental Agreement"). It shall be the responsibility of the Supplier to comply, when applicable, with the prevailing wage legislation in effect in the jurisdiction of the Participating Agency. It shall further be the responsibility of the Supplier to monitor the prevailing wage rates as established by the appropriate department of labor for any increase in rates during the term of the Master Agreement and adjust wage rates accordingly. In instances where supplemental terms and conditions create additional risk and cost for Supplier, Supplier and Participating Public Agency may negotiate additional pricing above and beyond the stated contract not-to-exceed pricing so long as the added price is commensurate with the additional cost incurred by the Supplier. Any supplemental agreement developed as a result of the Master Agreement is exclusively between the Participating Agency and the Supplier (Contract Sales are reported to OMNIA Partners).

All signed Supplemental Agreements and purchase orders issued and accepted by the Supplier may survive expiration or termination of the Master Agreement. Participating Agencies' purchase orders may exceed the term of the Master Agreement if the purchase order is issued prior to the expiration of the Master Agreement. Supplier is responsible for reporting all sales and paying the applicable Administrative Fee for sales that use the Master Agreement as the basis for the purchase order, even though Master Agreement may have expired.

1.5 Objectives of Cooperative Program

This RFP is intended to achieve the following objectives regarding availability through OMNIA Partners' cooperative program:

A. Provide a comprehensive competitively solicited and awarded national agreement offering the Products covered by this solicitation to Participating Public Agencies;

B. Establish the Master Agreement as the Supplier's primary go to market strategy to Public Agencies nationwide;

C. Achieve cost savings for Supplier and Public Agencies through a single solicitation process that will reduce the Supplier's need to respond to multiple solicitations and Public Agencies need to conduct their own solicitation process;

D. Combine the aggregate purchasing volumes of Participating Public Agencies to achieve cost effective pricing.

2.0 REPRESENTATIONS AND COVENANTS

As a condition to Supplier entering into the Master Agreement, which would be available to all Public Agencies, Supplier must make certain representations, warranties and covenants to both the Principal Procurement Agency and OMNIA Partners designed to ensure the success of the Master Agreement for all Participating Public Agencies as well as the Supplier.

2.1 Corporate Commitment

Supplier commits that (1) the Master Agreement has received all necessary corporate authorizations and support of the Supplier's executive management, (2) the Master Agreement is Supplier's primary "go to market" strategy for Public Agencies, (3) the Master Agreement will be promoted to all Public Agencies, including any existing customers, and Supplier will transition existing customers, upon their request, to the Master Agreement, and (4) that the Supplier has read and agrees to the terms and conditions of the Administration Agreement with OMNIA Partners and will execute such agreement concurrent with and as a condition of its execution of the Master Agreement with the Principal Procurement Agency. Supplier will identify an executive corporate sponsor and a separate national account manager within the RFP response that will be responsible for the overall management of the Master Agreement.

2.2 Pricing Commitment

Supplier commits the not-to-exceed pricing provided under the Master Agreement pricing is its lowest available (net to buyer) to Public Agencies nationwide and further commits that if a Participating Public Agency is eligible for lower pricing through a national, state, regional or local or cooperative contract, the Supplier will match such lower pricing to that Participating Public Agency under the Master Agreement.

2.3 Sales Commitment

Supplier commits to aggressively market the Master Agreement as its go to market strategy in this defined sector and that its sales force will be trained, engaged and committed to offering the Master Agreement to Public Agencies through OMNIA Partners nationwide. Supplier commits that all Master Agreement sales will be accurately and timely reported to OMNIA Partners in accordance with the OMNIA Partners Administration Agreement. Supplier also commits its sales force will be compensated, including sales incentives, for sales to Public Agencies under the Master Agreement in a consistent or better manner compared to sales to Public Agencies if the Supplier were not awarded the Master Agreement.

3.0 SUPPLIER RESPONSE

Supplier must supply the following information for the Principal Procurement Agency to determine Supplier's qualifications to extend the resulting Master Agreement to Participating Public Agencies through OMNIA Partners.

3.1 Company

A. Brief history and description of Supplier to include experience providing similar products and services.

B. Total number and location of salespersons employed by Supplier.

C. Number and location of support centers (if applicable) and location of corporate office.

D. Annual sales for the three previous fiscal years.

a. Submit FEIN and Dunn & Bradstreet report.

E. Describe any green or environmental initiatives or policies.

F. Describe any diversity programs or partners supplier does business with and how Participating Agencies may use diverse partners through the Master Agreement. Indicate how, if at all, pricing changes when using the diversity program. If there are any diversity programs, provide a list of diversity alliances and a copy of their certifications.

G. Indicate if supplier holds any of the below certifications in any classified areas and include proof of such certification in the response:

a. Minority Women Business Enterprise

☐ Yes ☐ No

If yes, list certifying agency: ______________________________________

b. Small Business Enterprise (SBE) or Disadvantaged Business Enterprise (DBE)

☐ Yes ☐ No

If yes, list certifying agency: ______________________________________

c. Historically Underutilized Business (HUB)

☐ Yes ☐ No

If yes, list certifying agency: ______________________________________

d. Historically Underutilized Business Zone Enterprise (HUBZone)

☐ Yes ☐ No

If yes, list certifying agency: ______________________________________

e. Other recognized diversity certificate holder

☐ Yes ☐ No

If yes, list certifying agency: ______________________________________

H. List any relationships with subcontractors or affiliates intended to be used when providing services and identify if subcontractors meet minority-owned standards. If any, list which certifications subcontractors hold and certifying agency.

I. Describe how supplier differentiates itself from its competitors.

J. Describe any present or past litigation, bankruptcy or reorganization involving supplier.

K. Felony Conviction Notice: Indicate if the supplier

a. is a publicly held corporation and this reporting requirement is not applicable;

b. is not owned or operated by anyone who has been convicted of a felony; or

c. is owned or operated by and individual(s) who has been convicted of a felony and provide the names and convictions.

L. Describe any debarment or suspension actions taken against supplier

3.2 Distribution, Logistics

A. Each offeror awarded an item under this solicitation may offer their complete product and service offering/a balance of line. Describe the full line of products and services offered by supplier.

B. Describe how supplier proposes to distribute the products/service nationwide. Include any states where products and services will not be offered under the Master Agreement, including U.S. Territories and Outlying Areas.

C. Describe how Participating Agencies are ensured they will receive the Master Agreement pricing; include all distribution channels such as direct ordering, retail or in-store locations, through distributors, etc. Describe how Participating Agencies verify and audit pricing to ensure its compliance with the Master Agreement.

D. Identify all other companies that will be involved in processing, handling or shipping the products/service to the end user.

E. Provide the number, size and location of Supplier's distribution facilities, warehouses and retail network as applicable.

3.3 Marketing and Sales

A. Provide a detailed ninety-day plan beginning from award date of the Master Agreement describing the strategy to immediately implement the Master Agreement as supplier's primary go to market strategy for Public Agencies to supplier's teams nationwide, to include, but not limited to:

   i. Executive leadership endorsement and sponsorship of the award as the public sector go-to-market strategy within first 10 days
   ii. Training and education of Supplier's national sales force with participation from the Supplier's executive leadership, along with the OMNIA Partners team within first 90 days

B. Provide a detailed ninety-day plan beginning from award date of the Master Agreement describing the strategy to market the Master Agreement to current Participating Public Agencies, existing Public Agency customers of Supplier, as well as to prospective Public Agencies nationwide immediately upon award, to include, but not limited to:

   i. Creation and distribution of a co-branded press release to trade publications
   ii. Announcement, Master Agreement details and contact information published on the Supplier's website within first 90 days
   iii. Design, publication and distribution of co-branded marketing materials within first 90 days

iv. Commitment to attendance and participation with OMNIA Partners at national (i.e. NIGP Annual Forum, NPI Conference, etc.), regional (i.e. Regional NIGP Chapter Meetings, Regional Cooperative Summits, etc.) and supplier-specific trade shows, conferences and meetings throughout the term of the Master Agreement

v. Commitment to attend, exhibit and participate at the NIGP Annual Forum in an area reserved by OMNIA Partners for partner suppliers. Booth space will be purchased and staffed by Supplier. In addition, Supplier commits to provide reasonable assistance to the overall promotion and marketing efforts for the NIGP Annual Forum, as directed by OMNIA Partners.

vi. Design and publication of national and regional advertising in trade publications throughout the term of the Master Agreement

vii. Ongoing marketing and promotion of the Master Agreement throughout its term (case studies, collateral pieces, presentations, promotions, etc.)

viii. Dedicated OMNIA Partners internet web-based homepage on Supplier's website with:

- OMNIA Partners standard logo;
- Copy of original Request for Proposal;
- Copy of Master Agreement and amendments between Principal Procurement Agency and Supplier;
- Summary of Products and pricing;
- Marketing Materials
- Electronic link to OMNIA Partners' website including the online registration page;
- A dedicated toll-free number and email address for OMNIA Partners

C. Describe how Supplier will transition any existing Public Agency customers' accounts to the Master Agreement available nationally through OMNIA Partners. Include a list of current cooperative contracts (regional and national) Supplier holds and describe how the Master Agreement will be positioned among the other cooperative agreements.

D. Acknowledge Supplier agrees to provide its logo(s) to OMNIA Partners and agrees to provide permission for reproduction of such logo in marketing communications and promotions. Acknowledge that use of OMNIA Partners logo will require permission for reproduction, as well.

E. Confirm Supplier will be proactive in direct sales of Supplier's goods and services to Public Agencies nationwide and the timely follow up to leads established by OMNIA Partners. All sales materials are to use the OMNIA Partners logo. At a minimum, the Supplier's sales initiatives should communicate:

i. Master Agreement was competitively solicited and publicly awarded by a Principal Procurement Agency

ii. Best government pricing
iii. No cost to participate
iv. Non-exclusive

F. Confirm Supplier will train its national sales force on the Master Agreement. At a minimum, sales training should include:

i. Key features of Master Agreement
ii. Working knowledge of the solicitation process
iii. Awareness of the range of Public Agencies that can utilize the Master Agreement through OMNIA Partners
iv. Knowledge of benefits of the use of cooperative contracts

G. Provide the name, title, email and phone number for the person(s), who will be responsible for:

i. Executive Support
ii. Marketing
iii. Sales
iv. Sales Support
v. Financial Reporting
vi. Accounts Payable
vii. Contracts

H. Describe in detail how Supplier's national sales force is structured, including contact information for the highest-level executive in charge of the sales team.

I. Explain in detail how the sales teams will work with the OMNIA Partners team to implement, grow and service the national program.

I. Explain in detail how Supplier will manage the overall national program throughout the term of the Master Agreement, including ongoing coordination of marketing and sales efforts, timely new Participating Public Agency account set-up, timely contract administration, etc.

J. State the amount of Supplier's Public Agency sales for the previous fiscal year. Provide a list of Supplier's top 10 Public Agency customers, the total purchases for each for the previous fiscal year along with a key contact for each.

K. Describe Supplier's information systems capabilities and limitations regarding order management through receipt of payment, including description of multiple platforms that may be used for any of these functions.

L. Provide the Contract Sales (as defined in Section 12 of the OMNIA Partners Administration Agreement) that Supplier will guarantee each year under the Master Agreement for the initial three years of the Master Agreement ("Guaranteed Contract Sales").

$_______.00 in year one
$_______.00 in year two
$_______.00 in year three

To the extent Supplier guarantees minimum Contract Sales, the Administrative Fee shall be calculated based on the greater of the actual Contract Sales and the Guaranteed Contract Sales.

M. Even though it is anticipated many Public Agencies will be able to utilize the Master Agreement without further formal solicitation, there may be circumstances where Public Agencies will issue their own solicitations. The following options are available when responding to a solicitation for Products covered under the Master Agreement.

i. Respond with Master Agreement pricing (Contract Sales reported to OMNIA Partners).

ii. If competitive conditions require pricing lower than the standard Master Agreement not-to-exceed pricing, Supplier may respond with lower pricing through the Master Agreement. If Supplier is awarded the contract, the sales are reported as Contract Sales to OMNIA Partners under the Master Agreement.

iii. Respond with pricing higher than Master Agreement only in the unlikely event that the Public Agency refuses to utilize Master Agreement (Contract Sales are not reported to OMNIA Partners).

iv. If alternative or multiple proposals are permitted, respond with pricing higher than Master Agreement, and include Master Agreement as the alternate or additional proposal.

Detail Supplier's strategies under these options when responding to a solicitation.

ADMINISTRATION AGREEMENT

THIS ADMINISTRATION AGREEMENT (this "**Agreement**") is made this ___ day of ______ 20__, between National Intergovernmental Purchasing Alliance Company, a Delaware corporation d/b/a OMNIA Partners, Public Sector ("**OMNIA Partners**"), and ________________ ("**Supplier**").

RECITALS

WHEREAS, the ___________________ (the "**Principal Procurement Agency**") has entered into a Master Agreement effective _________________, Agreement No_______, by and between the Principal Procurement Agency and Supplier, (as may be amended from time to time in accordance with the terms thereof, the "**Master Agreement**"), as attached hereto as Exhibit A and incorporated herein by reference as though fully set forth herein, for the purchase of ____________________________ (the "**Product**");

WHEREAS, said Master Agreement provides that any or all public agencies, including state and local governmental entities, public and private primary, secondary and higher education entities, non-profit entities, and agencies for the public benefit (collectively, "**Public Agencies**"), that register (either via registration on the OMNIA Partners website or execution of a Master Intergovernmental Cooperative Purchasing Agreement, attached hereto as Exhibit B) (each, hereinafter referred to as a "**Participating Public Agency**") may purchase Product at prices stated in the Master Agreement;

WHEREAS, Participating Public Agencies may access the Master Agreement which is offered through OMNIA Partners to Public Agencies;

WHEREAS, OMNIA Partners serves as the cooperative contract administrator of the Master Agreement on behalf of Principal Procurement Agency;

WHEREAS, Principal Procurement Agency desires OMNIA Partners to proceed with administration of the Master Agreement; and

WHEREAS, OMNIA Partners and Supplier desire to enter into this Agreement to make available the Master Agreement to Participating Public Agencies and to set forth certain terms and conditions governing the relationship between OMNIA Partners and Supplier.

NOW, THEREFORE, in consideration of the payments to be made hereunder and the mutual covenants contained in this Agreement, OMNIA Partners and Supplier hereby agree as follows:

DEFINITIONS

1. Capitalized terms used in this Agreement and not otherwise defined herein shall have the meanings given to them in the Master Agreement.

TERMS AND CONDITIONS

2. The Master Agreement and the terms and conditions contained therein shall apply to this Agreement except as expressly changed or modified by this Agreement. Supplier acknowledges and agrees that the covenants and agreements of Supplier set forth in the solicitation and Supplier's response thereto resulting in the Master Agreement are incorporated herein and are an integral part hereof.

3. OMNIA Partners shall be afforded all of the rights, privileges and indemnifications afforded to Principal Procurement Agency by or from Supplier under the Master Agreement, and such rights, privileges and indemnifications shall accrue and apply with equal effect to OMNIA Partners, its agents, employees, directors, and representatives under this Agreement including, but not limited to, Supplier's obligation to obtain appropriate insurance.

4. OMNIA Partners shall perform all of its duties, responsibilities and obligations as the cooperative contract administrator of the Master Agreement on behalf of Principal Procurement Agency as set forth herein, and Supplier hereby acknowledges and agrees that all duties, responsibilities and obligations will be undertaken by OMNIA Partners solely in its capacity as the cooperative contract administrator under the Master Agreement.

5. With respect to any purchases by Principal Procurement Agency or any Participating Public Agency pursuant to the Master Agreement, OMNIA Partners shall not be: (i) construed as a dealer, re-marketer, representative, partner or agent of any type of the Supplier, Principal Procurement Agency or any Participating Public Agency; (ii) obligated, liable or responsible for any order for Product made by Principal Procurement Agency or any Participating Public Agency or any employee thereof under the Master Agreement or for any payment required to be made with respect to such order for Product; and (iii) obligated, liable or responsible for any failure by Principal Procurement Agency or any Participating Public Agency to comply with procedures or requirements of applicable law or the Master Agreement or to obtain the due authorization and approval necessary to purchase under the Master Agreement. OMNIA Partners makes no representation or guaranty with respect to any minimum purchases by Principal Procurement Agency or any Participating Public Agency or any employee thereof under this Agreement or the Master Agreement.

6. OMNIA Partners shall not be responsible for Supplier's performance under the Master Agreement, and Supplier shall hold OMNIA Partners harmless from any liability that may arise from the acts or omissions of Supplier in connection with the Master Agreement.

7. Supplier acknowledges that, in connection with its access to OMNIA Partners confidential information and/or supply of data to OMNIA Partners, it has complied with and shall continue to comply with all laws, regulations and standards that may apply to Supplier, including, without limitation: (a) United States federal and state information security and privacy statutes, regulations and/or best practices, including, without limitation, the Gramm-Leach-Bliley Act, the Massachusetts Data Security Regulations (201 C.M.R. 17.00 et. seq.), the Nevada encryption statute (N.R.S. § 603A), the California data security law (Cal. Civil Code § 1798.80 et. seq.) and California Consumer Privacy Act (Cal. Civil Code § 1798.100 et. seq.); and (b) applicable industry and regulatory standards and best practices (collectively, "**Data Regulations**").

With regard to Personal Information that Supplier collects, receives, or otherwise processes under the Agreement or otherwise in connection with performance of the Agreement, Supplier agrees that it will not: (i) sell, rent, release, disclose, disseminate, make available, transfer, or otherwise communicate orally, in writing, or by electronic or other means, such Personal Information to another business or third party for monetary or other valuable consideration; or (ii) retain, use, or disclose such Personal Information outside of the direct business relationship between Supplier and OMNIA Partners or for any purpose other than for the specific purpose of performance of the Agreement, including retaining, using, or disclosing such Personal Information for a commercial purpose other than for performance of the Agreement. By entering into the Agreement, Supplier certifies that it understands the specific restrictions contained in this Section 7 and will comply with them. For purposes hereof, "**Personal Information**" means information that identifies, relates to, describes, is reasonably capable of being associated with, or could reasonably be linked, directly or indirectly, with a particular consumer or household, and includes the specific elements of "personal information" as defined under Data Regulations, as defined herein. Supplier will reasonably assist OMNIA Partners in timely responding to any third party "request to know" or "request to delete" (as defined pursuant to Data Regulations) and will promptly provide OMNIA Partners with information reasonably necessary for OMNIA Partners to respond to such requests. Where Supplier collects Personal Information directly from Public Agencies or others on OMNIA Partners' behalf, Supplier will maintain records and the means necessary to enable OMNIA Partners to respond to such requests to know and requests to delete.

8. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, OMNIA PARTNERS EXPRESSLY DISCLAIMS ALL EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES REGARDING OMNIA PARTNERS' PERFORMANCE AS A COOPERATIVE CONTRACT ADMINISTRATOR OF THE MASTER AGREEMENT. OMNIA PARTNERS SHALL NOT BE LIABLE IN ANY WAY FOR ANY SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, EXEMPLARY, PUNITIVE, OR RELIANCE DAMAGES, EVEN IF OMNIA PARTNERS IS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

TERM OF AGREEMENT; TERMINATION

9. This Agreement shall be in effect so long as the Master Agreement remains in effect, provided, however, that the provisions of Sections 3 – 8 and 11 – 22, hereof and the indemnifications afforded by the Supplier to OMNIA Partners in the Master Agreement, to the extent such provisions survive any expiration or termination of the Master Agreement, shall survive the expiration or termination of this Agreement.

NATIONAL PROMOTION

10. OMNIA Partners and Supplier shall publicize and promote the availability of the Master Agreement's products and services to Public Agencies and such agencies' employees. Supplier shall require each Public Agency to register its participation in the OMNIA Partners program by either registering on the OMNIA Partners website (www.omniapartners.com/publicsector) or executing a Master Intergovernmental Cooperative Purchasing Agreement prior to processing the Participating Public Agency's first sales order. Upon request, Supplier shall make available to interested Public Agencies a copy of the Master Agreement and such price lists or quotes as may be necessary for such Public Agencies to evaluate potential purchases.

11. Supplier shall provide such marketing and administrative support as set forth in the solicitation resulting in the Master Agreement, including assisting in development of marketing materials as reasonably requested by Principal Procurement Agency and OMNIA Partners. Supplier shall be responsible for obtaining permission or license of use and payment of any license fees for all content and images Supplier provides to OMNIA Partners or posts on the OMNIA Partners website.

Supplier shall indemnify, defend and hold harmless OMNIA Partners for use of all such content and images including copyright infringement claims. Supplier and OMNIA Partners each hereby grant to the other party a limited, revocable, non-transferable, non-sublicensable right to use such party's logo (each, the "**Logo**") solely for use in marketing the Master Agreement. Each party shall provide the other party with the standard terms of use of such party's Logo, and such party shall comply with such terms in all material respects. Both parties shall obtain approval from the other party prior to use of such party's Logo. Notwithstanding the foregoing, the parties understand and agree that except as provided herein neither party shall have any right, title or interest in the other party's Logo. Upon termination of this Agreement, each party shall immediately cease use of the other party's Logo.

ADMINISTRATIVE FEE, REPORTING & PAYMENT

12. An "Administrative Fee" shall be defined and due to OMNIA Partners from Supplier in the amount of __ percent (__%) ("**Administrative Fee Percentage**") multiplied by the total purchase amount paid to Supplier, less refunds and credits on returns, for the sale of products and/or services to Principal Procurement Agency and Participating Public Agencies pursuant to the Master Agreement (as amended from time to time and including any renewal thereof) ("**Contract Sales**"). From time to time the parties may mutually agree in writing to a lower Administrative Fee Percentage for a specifically identified Participating Public Agency's Contract Sales.

13. Supplier shall provide OMNIA Partners with an electronic accounting report monthly, in the format prescribed by OMNIA Partners, summarizing all Contract Sales for each calendar month. The Contract Sales reporting format is provided as Exhibit C ("**Contract Sales Report**"), attached hereto and incorporated herein by reference. Contract Sales Reports for each calendar month shall be provided by Supplier to OMNIA Partners by the 10th day of the following month. Failure to provide a Contract Sales Report within the time and manner specified herein shall constitute a material breach of this Agreement and if not cured within thirty (30) days of written notice to Supplier shall be deemed a cause for termination of the Master Agreement, at Principal Procurement Agency's sole discretion, and/or this Agreement, at OMNIA Partners' sole discretion.

14. Administrative Fee payments are to be paid by Supplier to OMNIA Partners at the frequency and on the due date stated in Section 13, above, for Supplier's submission of corresponding Contract Sales Reports. Administrative Fee payments are to be made via Automated Clearing House (ACH) to the OMNIA Partners designated financial institution identified in Exhibit D. Failure to provide a payment of the Administrative Fee within the time and manner specified herein shall constitute a material breach of this Agreement and if not cured within thirty (30) days of written notice to Supplier shall be deemed a cause for termination of the Master Agreement, at Principal Procurement Agency's sole discretion, and/or this Agreement, at OMNIA Partners' sole discretion. All Administrative Fees not paid when due shall bear interest at a rate equal to the lesser of one and one-half percent (1 1/2%) per month or the maximum rate permitted by law until paid in full.

15. Supplier shall maintain an accounting of all purchases made by Participating Public Agencies under the Master Agreement. OMNIA Partners, or its designee, in OMNIA Partners' sole discretion, reserves the right to compare Participating Public Agency records with Contract Sales Reports submitted by Supplier for a period of four (4) years from the date OMNIA Partners receives such report. In addition, OMNIA Partners may engage a third party to conduct an independent audit of Supplier's monthly reports. In the event of such an audit, Supplier shall provide all materials reasonably requested relating to such audit by OMNIA Partners at the location designated by OMNIA Partners. In the event an underreporting of Contract Sales and a resulting underpayment of Administrative Fees is revealed, OMNIA Partners will notify the Supplier in writing. Supplier will

have thirty (30) days from the date of such notice to resolve the discrepancy to OMNIA Partners' reasonable satisfaction, including payment of any Administrative Fees due and owing, together with interest thereon in accordance with Section 13, and reimbursement of OMNIA Partners' costs and expenses related to such audit.

GENERAL PROVISIONS

16. This Agreement, the Master Agreement and the exhibits referenced herein supersede any and all other agreements, either oral or in writing, between the parties hereto with respect to the subject matter hereto and no other agreement, statement, or promise relating to the subject matter of this Agreement which is not contained or incorporated herein shall be valid or binding. In the event of any conflict between the provisions of this Agreement and the Master Agreement, as between OMNIA Partners and Supplier, the provisions of this Agreement shall prevail.

17. If any action at law or in equity is brought to enforce or interpret the provisions of this Agreement or to recover any Administrative Fee and accrued interest, the prevailing party shall be entitled to reasonable attorney's fees and costs in addition to any other relief to which it may be entitled.

18. This Agreement and OMNIA Partners' rights and obligations hereunder may be assigned at OMNIA Partners' sole discretion to an affiliate of OMNIA Partners, any purchaser of any or all or substantially all of the assets of OMNIA Partners, or the successor entity as a result of a merger, reorganization, consolidation, conversion or change of control, whether by operation of law or otherwise. Supplier may not assign its obligations hereunder without the prior written consent of OMNIA Partners.

19. All written communications given hereunder shall be delivered by first-class mail, postage prepaid, or overnight delivery on receipt to the addresses as set forth below.

A. OMNIA Partners:

OMNIA Partners
5001 Aspen Grove
Franklin, TN 37067
Attention: Legal Department - Public Sector Contracting

B. Supplier:

____
____
____
____

20. If any provision of this Agreement shall be deemed to be, or shall in fact be, illegal, inoperative or unenforceable, the same shall not affect any other provision or provisions herein contained or render the same invalid, inoperative or unenforceable to any extent whatever, and this Agreement will be construed by limiting or invalidating such provision to the minimum extent necessary to make such provision valid, legal and enforceable.

21. This Agreement may not be amended, changed, modified, or altered without the prior written consent of the parties hereto, and no provision of this Agreement may be discharged or

waived, except by a writing signed by the parties. A waiver of any particular provision will not be deemed a waiver of any other provision, nor will a waiver given on one occasion be deemed to apply to any other occasion.

22. This Agreement shall inure to the benefit of and shall be binding upon OMNIA Partners, the Supplier and any respective successor and assign thereto; subject, however, to the limitations contained herein.

23. This Agreement will be construed under and governed by the laws of the State of Delaware, excluding its conflicts of law provisions and any action arising out of or related to this Agreement shall be commenced solely and exclusively in the state or federal courts in Williamson County Tennessee.

24. This Agreement may be executed in counterparts, each of which is an original but all of which, together, shall constitute but one and the same instrument. The exchange of copies of this Agreement and of signature pages by facsimile, or by .pdf or similar electronic transmission, will constitute effective execution and delivery of this Agreement as to the parties and may be used in lieu of the original Agreement for all purposes. Signatures of the parties transmitted by facsimile, or by .pdf or similar electronic transmission, will be deemed to be their original signatures for any purpose whatsoever.

[INSERT SUPPLIER ENTITY NAME]	**NATIONAL INTERGOVERNMENTAL PURCHASING ALLIANCE COMPANY, A DELAWARE CORPORATION D/B/A OMNIA PARTNERS, PUBLIC SECTOR**
Signature	Signature
Name	Sarah Vavra Name
Title	Sr. Vice President, Public Sector Contracting Title
Date	Date

MASTER INTERGOVERNMENTAL COOPERATIVE PURCHASING AGREEMENT

This Master Intergovernmental Cooperative Purchasing Agreement (this "**Agreement**") is entered into by and between those certain government agencies that execute a Principal Procurement Agency Certificate ("**Principal Procurement Agencies**") with National Intergovernmental Purchasing Alliance Company, a Delaware corporation d/b/a OMNIA Partners, Public Sector, Communities Program Management, LLC, a California limited liability company d/b/a U.S. Communities, and/or NCPA LLC, a Texas limited liability company d/b/a National Cooperative Purchasing Alliance (collectively, "**OMNIA Partners**"), in its capacity as the cooperative administrator, to be appended and made a part hereof and such other public agencies ("**Participating Public Agencies**") who register to participate in the cooperative purchasing programs administered by OMNIA Partners and its affiliates and subsidiaries (collectively, the "**OMNIA Partners Parties**") by either registering on the OMNIA Partners website (www.omniapartners.com/publicsector or any successor website), or by executing a copy of this Agreement.

RECITALS

WHEREAS, after a competitive solicitation and selection process by Principal Procurement Agencies, in compliance with their own policies, procedures, rules and regulations, a number of suppliers have entered into "**Master Agreements**" (herein so called) to provide a variety of goods, products and services ("**Products**") to the applicable Principal Procurement Agency and the Participating Public Agencies;

WHEREAS, Master Agreements are made available by Principal Procurement Agencies through the OMNIA Partners Parties and provide that Participating Public Agencies may purchase Products on the same terms, conditions and pricing as the Principal Procurement Agency, subject to any applicable federal and/or local purchasing ordinances and the laws of the State of purchase; and

WHEREAS, in addition to Master Agreements, the OMNIA Partners Parties may from time to time offer Participating Public Agencies the opportunity to acquire Products through other group purchasing agreements.

NOW, THEREFORE, in consideration of the mutual promises contained in this Agreement, and of the mutual benefits to result, the parties hereby agree as follows:

1. Each party will facilitate the cooperative procurement of Products.

2. The Participating Public Agencies shall procure Products in accordance with and subject to the relevant federal, state and local statutes, ordinances, rules and regulations that govern Participating Public Agency's procurement practices. The Participating Public Agencies hereby acknowledge and agree that it is the intent of the parties that all provisions of this Agreement and that Principal Procurement Agencies' participation in the program described herein comply with all applicable laws, including but not limited to the requirements of 42 C.F.R. § 1001.952(j), as may be amended from time to time. The Participating Public Agencies further acknowledge and agree that they are solely responsible for their compliance with all applicable "safe harbor" regulations, including but not limited to any and all obligations to fully and accurately report discounts and

incentives.

3. The Participating Public Agency represents and warrants that the Participating Public Agency is not a hospital or other healthcare provider and is not purchasing Products on behalf of a hospital or healthcare provider; provided that the foregoing shall not prohibit Participating Public Agency from furnishing health care services so long as the furnishing of health care services is not in furtherance of a primary purpose of the Participating Public Agency.

4. The cooperative use of Master Agreements shall be in accordance with the terms and conditions of the Master Agreements, except as modification of those terms and conditions is otherwise required by applicable federal, state or local law, policies or procedures.

5. The Principal Procurement Agencies will make available, upon reasonable request, Master Agreement information which may assist in improving the procurement of Products by the Participating Public Agencies.

6. The Participating Public Agency agrees the OMNIA Partners Parties may provide access to group purchasing organization ("**GPO**") agreements directly or indirectly by enrolling the Participating Public Agency in another GPO's purchasing program, provided that the purchase of Products through the OMNIA Partners Parties or any other GPO shall be at the Participating Public Agency's sole discretion.

7. The Participating Public Agencies (each a "**Procuring Party**") that procure Products through any Master Agreement or GPO Product supply agreement (each a "**GPO Contract**") will make timely payments to the distributor, manufacturer or other vendor (collectively, "**Supplier**") for Products received in accordance with the terms and conditions of the Master Agreement or GPO Contract, as applicable. Payment for Products and inspections and acceptance of Products ordered by the Procuring Party shall be the exclusive obligation of such Procuring Party. Disputes between Procuring Party and any Supplier shall be resolved in accordance with the law and venue rules of the State of purchase unless otherwise agreed to by the Procuring Party and Supplier.

8. The Procuring Party shall not use this Agreement as a method for obtaining additional concessions or reduced prices for purchase of similar products or services outside of the Master Agreement. Master Agreements may be structured with not-to-exceed pricing, in which cases the Supplier may offer the Procuring Party and the Procuring Party may accept lower pricing or additional concessions for purchase of Products through a Master Agreement.

9. The Procuring Party shall be responsible for the ordering of Products under this Agreement. A non-procuring party shall not be liable in any fashion for any violation by a Procuring Party, and, to the extent permitted by applicable law, the Procuring Party shall hold non-procuring party harmless from any liability that may arise from the acts or omissions of the Procuring Party.

10. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, THE OMNIA PARTNERS PARTIES EXPRESSLY DISCLAIM ALL EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES REGARDING ANY PRODUCT, MASTER AGREEMENT AND GPO CONTRACT. THE OMNIA PARTNERS PARTIES SHALL NOT BE LIABLE IN ANY WAY FOR ANY SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, EXEMPLARY, PUNITIVE, OR RELIANCE DAMAGES, EVEN IF THE OMNIA PARTNERS PARTIES ARE ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. FURTHER, THE PROCURING PARTY ACKNOWLEDGES AND AGREES THAT THE OMNIA PARTNERS

PARTIES SHALL HAVE NO LIABILITY FOR ANY ACT OR OMISSION BY A SUPPLIER OR OTHER PARTY UNDER A MASTER AGREEMENT OR GPO CONTRACT.

11. This Agreement shall remain in effect until termination by either party giving thirty (30) days' written notice to the other party. The provisions of Paragraphs 6 - 10 hereof shall survive any such termination.

12. This Agreement shall take effect upon (i) execution of the Principal Procurement Agency Certificate, or (ii) registration on the OMNIA Partners website or the execution of this Agreement by a Participating Public Agency, as applicable.

Participating Public Agency:	**OMNIA Partners, as the cooperative administrator on behalf of Principal Procurement Agencies**: **NATIONAL INTERGOVERNMENTAL PURCHASING ALLIANCE COMPANY COMMUNITIES PROGRAM MANAGEMENT, LLC**
Authorized Signature	Signature
	Sarah E. Vavra
Name	Name
	Sr. Vice President, Public Sector Contracting
Title and Agency Name	Title
Date	Date

Exhibit D
Principal Procurement Agency Certificate, Example

PRINCIPAL PROCUREMENT AGENCY CERTIFICATE

In its capacity as a Principal Procurement Agency (as defined below) for National Intergovernmental Purchasing Alliance Company, a Delaware corporation d/b/a OMNIA Partners, Public Sector ("**OMNIA Partners**"), [PPA Name] agrees to pursue Master Agreements for Products as specified in the attached Exhibits to this Principal Procurement Agency Certificate.

I hereby acknowledge, in my capacity as _____________ of and on behalf of **[PPA Name]** ("**Principal Procurement Agency**"), that I have read and hereby agree to the general terms and conditions set forth in the attached Master Intergovernmental Cooperative Purchasing Agreement regulating the use of the Master Agreements and purchase of Products that from time to time are made available by Principal Procurement Agencies to Participating Public Agencies nationwide through OMNIA Partners.

I understand that the purchase of one or more Products under the provisions of the Master Intergovernmental Cooperative Purchasing Agreement is at the sole and complete discretion of the Participating Public Agency.

Authorized Signature, [PPA Name]________

____
Signature

____
Name

____
Title

____
Date

Exhibit E
Contract Sales Reporting Template

Contract Sales Report submitted electronically in Microsoft Excel:

OMNIA® PARTNERS			Supplier Name:		Total Sales	$0.00										
			Contract Number:		Admin Fee %											
			Reporting Period:		Total Admin Fee	$0.00							FOR OMNIA USE ONLY			
Supplier Internal ID	ID	Name	Street Address	Street Address 2	City	State	Postal Code	Transaction Date	Sales Amount	Admin Fee %	Admin Fee	Notes	Wildcard	UniqueId	Rebate Due	Rebate Name

Exhibit F
Federal Funds Certifications

FEDERAL CERTIFICATIONS
ADDENDUM FOR AGREEMENT FUNDED BY U.S. FEDERAL GRANT

TO WHOM IT MAY CONCERN:

Participating Agencies may elect to use federal funds to purchase under the Master Agreement. This form should be completed and returned.

DEFINITIONS

Contract means a legal instrument by which a non–Federal entity purchases property or services needed to carry out the project or program under a Federal award. The term as used in this part does not include a legal instrument, even if the non–Federal entity considers it a contract, when the substance of the transaction meets the definition of a Federal award or subaward

Contractor means an entity that receives a contract as defined in Contract.

Cooperative agreement means a legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non–Federal entity that, consistent with 31 U.S.C. 6302–6305:

(a) Is used to enter into a relationship the principal purpose of which is to transfer anything of value from the Federal awarding agency or pass-through entity to the non–Federal entity to carry out a public purpose authorized by a law of the United States (see 31 U.S.C. 6101(3)); and not to acquire property or services for the Federal government or pass-through entity's direct benefit or use;

(b) Is distinguished from a grant in that it provides for substantial involvement between the Federal awarding agency or pass-through entity and the non–Federal entity in carrying out the activity contemplated by the Federal award.

(c) The term does not include:

(1) A cooperative research and development agreement as defined in 15 U.S.C. 3710a; or

(2) An agreement that provides only:

(i) Direct United States Government cash assistance to an individual;

(ii) A subsidy;

(iii) A loan;

(iv) A loan guarantee; or

(v) Insurance.

Federal awarding agency means the Federal agency that provides a Federal award directly to a non–Federal entity

Federal award has the meaning, depending on the context, in either paragraph (a) or (b) of this section:

(a)(1) The Federal financial assistance that a non–Federal entity receives directly from a Federal awarding agency or indirectly from a pass-through entity, as described in § 200.101 Applicability; or

(2) The cost-reimbursement contract under the Federal Acquisition Regulations that a non–Federal entity receives directly from a Federal awarding agency or indirectly from a pass-through entity, as described in § 200.101 Applicability.

(b) The instrument setting forth the terms and conditions. The instrument is the grant agreement, cooperative agreement, other agreement for assistance covered in paragraph (b) of § 200.40 Federal financial assistance, or the cost-reimbursement contract awarded under the Federal Acquisition Regulations.

(c) Federal award does not include other contracts that a Federal agency uses to buy goods or services from a contractor or a contract to operate Federal government owned, contractor operated facilities (GOCOs).

(d) See also definitions of Federal financial assistance, grant agreement, and cooperative agreement.

Non–Federal entity means a state, local government, Indian tribe, institution of higher education (IHE), or nonprofit organization that carries out a Federal award as a recipient or subrecipient.

Nonprofit organization means any corporation, trust, association, cooperative, or other organization, not including IHEs, that:

(a) Is operated primarily for scientific, educational, service, charitable, or similar purposes in the public interest;
(b) Is not organized primarily for profit; and
(c) Uses net proceeds to maintain, improve, or expand the operations of the organization.

Obligations means, when used in connection with a non–Federal entity's utilization of funds under a Federal award, orders placed for property and services, contracts and subawards made, and similar transactions during a given period that require payment by the non–Federal entity during the same or a future period.

Pass-through entity means a non–Federal entity that provides a subaward to a subrecipient to carry out part of a Federal program.

Recipient means a non–Federal entity that receives a Federal award directly from a Federal awarding agency to carry out an activity under a Federal program. The term recipient does not include subrecipients.

Simplified acquisition threshold means the dollar amount below which a non–Federal entity may purchase property or services using small purchase methods. Non–Federal entities adopt small purchase procedures in order to expedite the purchase of items costing less than the simplified acquisition threshold. The simplified acquisition threshold is set by the Federal Acquisition Regulation at 48 CFR Subpart 2.1 (Definitions) and in accordance with 41 U.S.C. 1908. As of the publication of this part, the simplified acquisition threshold is $250,000, but this threshold is periodically adjusted for inflation. (Also see definition of § 200.67 Micro-purchase.)

Subaward means an award provided by a pass-through entity to a subrecipient for the subrecipient to carry out part of a Federal award received by the pass-through entity. It does not include payments to a contractor or payments to an individual that is a beneficiary of a Federal program. A subaward may be provided through any form of legal agreement, including an agreement that the pass-through entity considers a contract.

Subrecipient means a non–Federal entity that receives a subaward from a pass-through entity to carry out part of a Federal program; but does not include an individual that is a beneficiary of such program. A subrecipient may also be a recipient of other Federal awards directly from a Federal awarding agency.

Termination means the ending of a Federal award, in whole or in part at any time prior to the planned end of period of performance.

The following provisions may be required and apply when Participating Agency expends federal funds for any purchase resulting from this procurement process. Per FAR 52.204-24 and FAR 52.204-25, solicitations and resultant contracts shall contain the following provisions.

52.204-24 Representation Regarding Certain Telecommunications and Video Surveillance Services or Equipment (Oct 2020)

The Offeror shall not complete the representation at paragraph (d)(1) of this provision if the Offeror has represented that it "does not provide covered telecommunications equipment or services as a part of its offered products or services to the Government in the performance of any contract, subcontract, or other contractual instrument" in paragraph (c)(1) in the provision at 52.204-26, Covered Telecommunications Equipment or Services—Representation, or in paragraph (v)(2)(i) of the provision at 52.212-3, Offeror Representations and Certifications-Commercial Items. The Offeror shall not complete the representation in paragraph (d)(2) of this provision if the Offeror has represented that it "does not use covered telecommunications equipment or services, or any equipment, system, or service that uses covered telecommunications equipment or services" in paragraph (c)(2) of the provision at 52.204-26, or in paragraph (v)(2)(ii) of the provision at 52.212-3.

(a) *Definitions.* As used in this provision—

Backhaul, covered telecommunications equipment or services, critical technology, interconnection arrangements, reasonable inquiry, roaming, and substantial or essential component have the meanings provided in the clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

(b) *Prohibition*.

(1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

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

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract or extending or renewing a contract with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract. Nothing in the prohibition shall be construed to—

(i) Prohibit the head of an executive agency from procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

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

(c) *Procedures.* The Offeror shall review the list of excluded parties in the System for Award Management (SAM) (https://www.sam.gov) for entities excluded from receiving federal awards for "covered telecommunications equipment or services".

(d) *Representation.* The Offeror represents that—

(1) It □ will, □ will not provide covered telecommunications equipment or services to the Government in the performance of any contract, subcontract or other contractual instrument resulting from this solicitation. The Offeror shall provide the additional disclosure information required at paragraph (e)(1) of this section if the Offeror responds "will" in paragraph (d)(1) of this section; and

(2) After conducting a reasonable inquiry, for purposes of this representation, the Offeror represents that—

It □ does, □ does not use covered telecommunications equipment or services, or use any equipment, system, or service that uses covered telecommunications equipment or services. The Offeror shall provide the additional disclosure information required at paragraph (e)(2) of this section if the Offeror responds "does" in paragraph (d)(2) of this section.

(e) *Disclosures.*

(1) Disclosure for the representation in paragraph (d)(1) of this provision. If the Offeror has responded "will" in the representation in paragraph (d)(1) of this provision, the Offeror shall provide the following information as part of the offer.

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the original equipment manufacturer (OEM) or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the Product Service Code (PSC) of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(1) of this provision.

(2) Disclosure for the representation in paragraph (d)(2) of this provision. If the Offeror has responded "does" in the representation in paragraph (d)(2) of this provision, the Offeror shall provide the following information as part of the offer:

(i) For covered equipment—

(A) The entity that produced the covered telecommunications equipment (include entity name, unique entity identifier, CAGE code, and whether the entity was the OEM or a distributor, if known);

(B) A description of all covered telecommunications equipment offered (include brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); and

(C) Explanation of the proposed use of covered telecommunications equipment and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

(ii) For covered services—

(A) If the service is related to item maintenance: A description of all covered telecommunications services offered (include on the item being maintained: Brand; model number, such as OEM number, manufacturer part number, or wholesaler number; and item description, as applicable); or

(B) If not associated with maintenance, the PSC of the service being provided; and explanation of the proposed use of covered telecommunications services and any factors relevant to determining if such use would be permissible under the prohibition in paragraph (b)(2) of this provision.

52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020).

(a) *Definitions.* As used in this clause—

Backhaul means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (*e.g.*, connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (*e.g.*, fiber optic, coaxial cable, Ethernet).

Covered foreign country means The People's Republic of China.

Covered telecommunications equipment or services means–

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or using such equipment; or

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

Critical technology means–

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

Interconnection arrangements means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (*e.g.*, connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

Reasonable inquiry means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

Roaming means cellular communications services (*e.g.*, voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

Substantial or essential component means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) *Prohibition*.

(1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

(c) *Exceptions.* This clause does not prohibit contractors from providing—

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

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

(d) Reporting requirement.

(1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at https://dibnet.dod.mil. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at https://dibnet.dod.mil.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause

(i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts.* The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

The following certifications and provisions may be required and apply when Participating Agency expends federal funds for any purchase resulting from this procurement process. Pursuant to 2 C.F.R. § 200.326, all contracts, including small purchases, awarded by the Participating Agency and the Participating Agency's subcontractors shall contain the procurement provisions of Appendix II to Part 200, as applicable.

APPENDIX II TO 2 CFR PART 200

(A) Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does offeror agree? YES ____Initials of Authorized Representative of offeror

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Offeror as detailed in the terms of the contract.

Does offeror agree? YES ____Initials of Authorized Representative of offeror

(**C) Equal Employment Opportunity. 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 CFR 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."**

Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.

Does offeror agree to abide by the above? YES __________________________Initials of Authorized Representative of offeror

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to 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, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a

copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non - Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance 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 Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient 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. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, offeror will be in compliance with all applicable Davis-Bacon Act provisions.

Does offeror agree? YES ______________________________Initials of Authorized Representative of offeror

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance 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, each contractor must be required to 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.

Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, offeror certifies that offeror will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act during the term of an award for all contracts by Participating Agency resulting from this procurement process.

Does offeror agree? YES ______________________________Initials of Authorized Representative of offeror

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

Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the offeror agrees to comply with all applicable requirements as referenced in Federal Rule (F) above.

Does offeror agree? YES ______________________________Initials of Authorized Representative of offeror

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non-Federal award to agree 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)

Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the offeror agrees to comply with all applicable requirements as referenced in Federal Rule (G) above.

Does offeror agree? YES ____ Initials of Authorized Representative of offeror

(H) Debarment and Suspension (Executive Orders 12549 and 12689)—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 Executive Office of the President Office of Management and Budget (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.

Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the offeror certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the offeror or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the offeror will notify the Participating Agency.

Does offeror agree? YES ____ Initials of Authorized Representative of offeror

(I) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier 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 non-Federal award.

Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the offeror certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the offeror certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

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

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

(3) The undersigned shall require that the language of this certification be included in the award documents for all covered sub-awards exceeding $100,000 in Federal funds at all appropriate tiers and that all subrecipients shall certify and disclose accordingly.

Does offeror agree? YES ____ Initials of Authorized Representative of offeror

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, offeror certifies that it will comply with the record retention requirements detailed in 2 CFR § 200.333. The offeror further certifies that offeror will retain all records as required by 2 CFR § 200.333 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

Does offeror agree? YES ____ Initials of Authorized Representative of offeror

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, offeror certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18).

Does offeror agree? YES ____Initials of Authorized Representative of offeror

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, offeror certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition.

Does offeror agree? YES ____Initials of Authorized Representative of offeror

CERTIFICATION OF COMPLIANCE WITH BUY AMERICAN PROVISIONS

Unless Supplier is exempt *(See FAR 25.103)*, when authorized by statute or explicitly indicated by Participating Public Agency, Buy American requirements will apply where only unmanufactured construction material mined or produced in the United States shall be used *(see Subpart 25.6 – American Recovery and Reinvestment Act-Buy American statute for additional details).*

CERTIFICATION OF ACCESS TO RECORDS – 2 C.F.R. § 200.336

Offeror agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have access to any documents, papers, or other records of offeror that are pertinent to offeror's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to offeror's personnel for the purpose of interview and discussion relating to such documents.

Does offeror agree? YES ____Initials of Authorized Representative of offeror

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Offeror agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does offeror agree? YES ____Initials of Authorized Representative of offeror

Offeror agrees to comply with all federal, state, and local laws, rules, regulations and ordinances, as applicable. It is further acknowledged that offeror certifies compliance with all provisions, laws, acts, regulations, etc. as specifically noted above.

Offeror's Name:

____

Address, City, State, and Zip Code:

____

Phone Number: ______________________ Fax Number:

____

Printed Name and Title of Authorized Representative:

____

Email Address:

____

Signature of Authorized Representative: ______________________ Date: ______________________

SPECIAL CONDITIONS

Awarded Supplier(s) may need to respond to events and losses where products and services are needed for the immediate and initial response to emergency situations such as, but not limited to, water damage, fire damage, vandalism cleanup, biohazard cleanup, sewage decontamination, deodorization, and/or wind damage during a disaster or emergency situation. By submitting a proposal, the Supplier is accepted these FEMA and/or Federal Funding Special Conditions required by the Federal Emergency Management Agency (FEMA) and other Federal entities.

"Contract" in the below pages under FEMA SPECIAL CONDITIONS is also referred to and defined as the "Master Agreement".

"Contractor" in the below pages under FEMA SPECIAL CONDITIONS is also referred to and defined as "Supplier" or "Awarded Supplier".

Conflicts of Interest

No employee, officer, or agent may participate in the selection, award, or administration of a contract supported by a FEMA award if he or she has a real or apparent conflict of interest. Such a conflict would arise when the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of these parties, has a financial or other interest in or a tangible personal benefit from a firm considered for award. 2 C.F.R. § 200.318(c)(1); See also Standard Form 424D, ¶ 7; Standard Form 424B, ¶ 3. i. FEMA considers a "financial interest" to be the potential for gain or loss to the employee, officer, or agent, any member of his or her immediate family, his or her partner, or an organization which employs or is about to employ any of these parties as a result of the particular procurement. The prohibited financial interest may arise from ownership of certain financial instruments or investments such as stock, bonds, or real estate, or from a salary, indebtedness, job offer, or similar interest that might be affected by the particular procurement. ii. FEMA considers an "apparent" conflict of interest to exist where an actual conflict does not exist, but where a reasonable person with knowledge of the relevant facts would question the impartiality of the employee, officer, or agent participating in the procurement. c. Gifts. The officers, employees, and agents of the Participating Public Agency nor the Participating Public Agency ("NFE") must neither solicit nor accept gratuities, favors, or anything of monetary value from contractors or parties to subcontracts. However, NFE's may set standards for situations in which the financial interest is de minimus, not substantial, or the gift is an unsolicited item of nominal value. 2 C.F.R. § 200.318(c)(1). d. Violations. The NFE's written standards of conduct must provide for disciplinary actions to be applied for violations of such standards by officers, employees, or agents of the NFE. 2 C.F.R. § 200.318(c)(1). For example, the penalty for a NFE's employee may be dismissal, and the penalty for a contractor might be the termination of the contract.

Contractor Integrity

A contractor must have a satisfactory record of integrity and business ethics. Contractors that are debarred or suspended, as described in and subject to the debarment and suspension regulations implementing Executive Order 12549, *Debarment and Suspension* (1986) and Executive Order 12689, *Debarment and Suspension* (1989) at 2 C.F.R. Part 180 and the Department of Homeland Security's regulations at 2 C.F.R. Part 3000 (Non-procurement Debarment and Suspension), must be rejected and cannot receive contract awards at any level.

Public Policy

A contractor must comply with the public policies of the Federal Government and state, local government, or tribal government. This includes, among other things, past and current compliance with the:
a. Equal opportunity and nondiscrimination laws
b. Five affirmative steps described at 2 C.F.R. § 200.321(b) for all subcontracting under contracts supported by FEMA financial assistance; and FEMA Procurement Guidance June 21, 2016 Page IV- 7
c. Applicable prevailing wage laws, regulations, and executive orders

Affirmative Steps
For any subcontracting opportunities, Contractor must take the following Affirmative steps:

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.

Bid Guarantee
For proposals that are to include construction/reconstruction/renovation and related services, bids must be accompanied by Certified or Cashier's Check or an approved Bid Bond in the amount of not less than five percent (5%) of the total bid. Surety shall provide a copy of the Power of Attorney authorizing the Executing Agent the authority to execute the bid bond documents and bind the surety to the bid bond conditions. The bid bond shall have a corporate Surety that is licensed to conduct business in the state of the lead agency and authorized to underwrite bonds in the amount of the bid bond.

Prevailing Wage Requirements
When applicable, the awarded Contractor (s) and any and all subcontractor(s) agree to comply with all laws regarding prevailing wage rates including the Davis-Bacon Act, applicable to this solicitation and/or Participating Public Agencies. The Participating Public Agency shall notify the Contractor of the applicable pricing/prevailing wage rates and must apply any local wage rates requested. The Contractor and any subcontractor(s) shall comply with the prevailing wage rates set by the Participating Public Agency.

Federal Requirements
If products and services are issued in response to an emergency or disaster recovery the items below, located in this FEMA Special Conditions section of the Federal Funds Certifications, are activated and required when federal funding may be utilized.

2 C.F.R. § 200.326 and 2 C.F.R. Part 200, Appendix II, Required Contract Clauses

1. CONTRACT REMEDIES

Contracts for more than the federal simplified acquisition threshold (SAT), the dollar amount below which an NFE may purchase property or services using small purchase methods, currently set at $250,000 for procurements made on or after June 20, 2018,4 must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms and must provide for sanctions and penalties as appropriate.

1.1 Applicability
This contract provision is required for contracts over the SAT, currently set at $250,000 for procurements made on or after June 20, 2018. Although not required for contracts at or below the SAT, FEMA suggests including a remedies provision.

1.2 Additional Considerations
For FEMA's Assistance to Firefighters Grant (AFG) Program, recipients must include a penalty clause in all contracts for any AFG-funded vehicle, regardless of dollar amount. In that situation, the contract must include a clause addressing that non-delivery by the contract's specified date or other vendor

nonperformance will require a penalty of no less than $100 per day until such time that the vehicle, compliant with the terms of the contract, has been accepted by the recipient. This penalty clause should, however, account for force majeure or acts of God. AFG recipients should refer to the applicable year's Notice of Funding Opportunity (NOFO) for additional information, which can be accessed at FEMA.gov.

2. TERMINATION FOR CAUSE AND CONVENIENCE

a. Standard. All contracts in excess of $10,000 must address termination for cause and for convenience by the non-Federal entity, including the manner by which it will be effected and the basis for settlement. See 2 C.F.R. Part 200, Appendix II(B).

b. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

3. EQUAL EMPLOYMENT OPPORTUNITY

When applicable:

a. Standard. Except as otherwise provided under 41 C.F.R. Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 C.F.R. § 60-1.3 must include the equal opportunity clause provided under 41 C.F.R. § 60- 1.4(b), in accordance with Executive Order 11246, *Equal Employment Opportunity* (30 Fed. Reg. 12319, 12935, 3 C.F.R. 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 C.F.R. Part 60 (Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor). See 2 C.F.R. Part 200, Appendix II(C).

b. Key Definitions.

i. Federally Assisted Construction Contract. The regulation at 41 C.F.R. § 60-1.3 defines a "federally assisted construction contract" as any agreement or modification thereof between any applicant and a person for construction work which is paid for in whole or in part with funds obtained from the Government or borrowed on the credit of the Government pursuant to any Federal program involving a grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, or any application or modification thereof approved by the Government for a grant, contract, loan, insurance, or guarantee under which the applicant itself participates in the construction work.

ii. Construction Work. The regulation at 41 C.F.R. § 60-1.3 defines "construction work" as the construction, rehabilitation, alteration, conversion, extension, demolition or repair of buildings, highways, or other changes or improvements to real property, including facilities providing utility services. The term also includes the supervision, inspection, and other onsite functions incidental to the actual construction.

c. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

d. Required Language. The regulation at 41 C.F.R. Part 60-1.4(b) requires the insertion of the following contract clause.

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

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

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

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

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

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

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

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

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

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

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

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

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

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

4. DAVIS-BACON ACT

a. Standard. All prime construction contracts in excess of $2,000 awarded by non- Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. §§ 3141-3144 and 3146-3148) as supplemented by Department of Labor regulations at 29 C.F.R. Part 5 (Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction). See 2 C.F.R. Part 200, Appendix II(D). In accordance with the statute, contractors must be required to 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, contractors must be required to pay wages not less than once a week.

b. Applicability. The Davis-Bacon Act applies to the Emergency Management Preparedness Grant Program, Homeland Security Grant Program, Nonprofit Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program, and Transit Security Grant Program.

c. Requirements. If applicable, the non-federal entity must do the following:

i. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

ii. Additionally, pursuant 2 C.F.R. Part 200, Appendix II(D), contracts subject to the Davis-Bacon Act, must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations at 29 C.F.R. Part 3 (Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States). The Copeland Anti- Kickback Act provides that each contractor or subrecipient 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. The non-Federal entity must report all suspected or reported violations to FEMA.

iii. Include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction").

Suggested Language. The following provides a sample contract clause:

Compliance with the Davis-Bacon Act.

a. All transactions regarding this contract shall be done in compliance with the Davis-Bacon Act (40 U.S.C. 3141- 3144, and 3146-3148) and the requirements of 29 C.F.R. pt. 5 as may be applicable. The contractor shall comply with 40 U.S.C. 3141-3144, and 3146-3148 and the requirements of 29 C.F.R. pt. 5 as applicable.

b. Contractors are required to 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.

c. Additionally, contractors are required to pay wages not less than once a week.

5. COPELAND ANTI-KICKBACK ACT

a. Standard. Recipient and subrecipient contracts must include a provision for compliance 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 Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States").

b. Applicability. This requirement applies to all contracts for construction or repair work above $2,000 in situations where the Davis-Bacon Act also applies. It DOES NOT apply to the FEMA Public Assistance Program.

c. Requirements. If applicable, the non-federal entity must include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. § 3145), as supplemented by Department of Labor regulations at 29 C.F.R. Part 3 (Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States). Each contractor or subrecipient 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. The non-Federal entity must report all suspected or reported violations to FEMA. Additionally, in accordance with the regulation, each contractor and subcontractor must furnish each week a statement with respect to the wages paid each of its employees engaged in work covered by the Copeland Anti-Kickback Act and the Davis Bacon Act during the preceding weekly payroll period. The report shall be delivered by the contractor or subcontractor, within seven days after the regular payment date of the payroll period, to a representative of a Federal or State agency in charge at the site of the building or work.

Sample Language. The following provides a sample contract clause:

Compliance with the Copeland "Anti-Kickback" Act.

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

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

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

6. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

a. Standard. Where applicable (see 40 U.S.C. §§ 3701-3708), all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704, as supplemented by Department of Labor regulations at 29 C.F.R. Part 5. See 2 C.F.R. Part 200, Appendix II(E). Under 40 U.S.C. § 3702, each contractor must be required to 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. Further, no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous.

b. Applicability. This requirement applies to all FEMA contracts awarded by the non- federal entity in excess of $100,000 under grant and cooperative agreement programs that involve the employment of mechanics or laborers. It is applicable to construction work. These requirements do not apply to the purchase of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

c. Suggested Language. The regulation at 29 C.F.R. § 5.5(b) provides contract clause language concerning compliance with the Contract Work Hours and Safety Standards Act. FEMA suggests including the following contract clause:

Compliance with the Contract Work Hours and Safety Standards Act.

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

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

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

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

7. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

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

b. Applicability. This requirement applies to "*funding agreements*," but it DOES NOT apply to the Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, Crisis Counseling Assistance and Training Grant Program, Disaster Case Management Grant Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program, as FEMA awards under these programs do not meet the definition of "funding agreement."

c. Funding Agreements Definition. The regulation at 37 C.F.R. § 401.2(a) defines "funding agreement" as any contract, grant, or cooperative agreement entered into between any Federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the Federal government. This term also includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as defined in the first sentence of this paragraph.

8. CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT

a. Standard. If applicable, contracts must contain a provision that requires the contractor to agree 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 FEMA and the Regional Office of the Environmental Protection Agency. See 2 C.F.R. Part 200, Appendix II(G).

b. Applicability. This requirement applies to contracts awarded by a non-federal entity of amounts in excess of $150,000 under a federal grant.

c. Suggested Language. The following provides a sample contract clause.

Clean Air Act

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

§ 7401 et seq.

2. The contractor agrees to report each violation to the Participating Public Agency and understands and agrees that the Participating Public Agency will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

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

Federal Water Pollution Control Act

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

2. The contractor agrees to report each violation to the Participating Public Agency and understands and agrees that the Participating Public Agency will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

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

9. DEBARMENT AND SUSPENSION

a. Standard. Non-Federal entities and contractors are subject to the debarment and suspension regulations implementing Executive Order 12549, *Debarment and Suspension* (1986) and Executive Order 12689, *Debarment and Suspension* (1989) at 2 C.F.R. Part 180 and the Department of Homeland Security's regulations at 2 C.F.R. Part 3000 (Non-procurement Debarment and Suspension).

b. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs.

c. Requirements.

i. These regulations restrict awards, subawards, and contracts with certain parties that are debarred, suspended, or otherwise excluded from or ineligible for participation in Federal assistance programs and activities. See 2 C.F.R. Part 200, Appendix II(H); and 2 C.F.R. § 200.213. A contract award must not be made to parties listed in the SAM Exclusions. SAM Exclusions is the list maintained by the General Services Administration that 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. SAM exclusions can be accessed at www.sam.gov. See 2 C.F.R. § 180.530.

ii. In general, an "excluded" party cannot receive a Federal grant award or a contract within the meaning of a "covered transaction," to include subawards and subcontracts. This includes parties that receive Federal funding indirectly, such as contractors to recipients and subrecipients. The key to the exclusion is whether there is a "covered transaction," which is any non-procurement transaction (unless excepted) at either a "primary" or "secondary" tier. Although "covered transactions" do not include contracts awarded by the Federal Government for purposes of the non-procurement common rule and DHS's implementing regulations, it does include some contracts awarded by recipients and subrecipients.

iii. Specifically, a covered transaction includes the following contracts for goods or services:

1. The contract is awarded by a recipient or subrecipient in the amount of at least $25,000.

2. The contract requires the approval of FEMA, regardless of amount.

3. The contract is for federally-required audit services.

4. A subcontract is also a covered transaction if it is awarded by the contractor of a recipient or subrecipient and requires either the approval of FEMA or is in excess of $25,000.

d. Suggested Language. The following provides a debarment and suspension clause. It incorporates an optional method of verifying that contractors are not excluded or disqualified.

Suspension and Debarment

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

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

(3) This certification is a material representation of fact relied upon by the Participating Public Agency. If it is later determined that the contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the Participating Public Agency, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

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

10. BYRD ANTI-LOBBYING AMENDMENT

a. Standard. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. FEMA's regulation at 44 C.F.R. Part 18 implements the requirements of 31 U.S.C. § 1352 and provides, in Appendix A to Part 18, a copy of the certification that is required to be completed by each entity as described in 31 U.S.C. § 1352. Each tier 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 Federal awarding agency.

b. Applicability. This requirement applies to all FEMA grant and cooperative agreement programs. Contractors that apply or bid for a contract of $100,000 or more under a federal grant must file the required certification. See 2 C.F.R. Part 200, Appendix II(I); 31 U.S.C. § 1352; and 44 C.F.R. Part 18.

c. Suggested Language.

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

Contractors who apply or bid for an award of $100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

d. Required Certification. If applicable, contractors must sign and submit to the non-federal entity the following certification.

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

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

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

cooperative agreement.

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

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

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

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

____

Signature of Contractor’s Authorized Official

____

Name and Title of Contractor’s Authorized Official

____

Date

11. PROCUREMENT OF RECOVERED MATERIALS

a. Standard. A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. See 2 C.F.R. Part 200, Appendix II(J); and 2 C.F.R. § 200.322.

b. Applicability. This requirement applies to all contracts awarded by a non- federal entity under FEMA grant and cooperative agreement programs.

c. Requirements. The requirements of Section 6002 include procuring only items designated in guidelines of the EPA at 40 C.F.R. Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired by the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

d. Suggested Language.

i. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired—

1. Competitively within a timeframe providing for compliance with the contract performance schedule;
2. Meeting contract performance requirements; or
3. At a reasonable price.

ii. Information about this requirement, along with the list of EPA- designated items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

iii. The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act."

12. DOMESTIC PREFERENCES FOR PROCUREMENTS

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

Applicability For purchases in support of FEMA declarations and awards issued on or after November 12, 2020, all FEMA recipients and subrecipients are required to include in all contracts and purchase orders for work or products a contract provision encouraging domestic preference for procurements.

Domestic Preference for Procurements As appropriate, and to the extent consistent with law, the contractor should, to the greatest extent practicable, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. This includes, but is not limited to iron, aluminum, steel, cement, and other manufactured products. For purposes of this clause: Produced in the United States means, for iron and steel products, that all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States. Manufactured products mean items and construction materials composed in whole or in part of non-ferrous metals such as aluminum; plastics and polymer-based products such as polyvinyl chloride pipe; aggregates such as concrete; glass, including optical fiber; and lumber."

13. **ACCESS TO RECORDS**

a. Standard. All recipients, subrecipients, successors, transferees, and assignees must acknowledge and agree to comply with applicable provisions governing DHS access to records, accounts, documents, information, facilities, and staff. Recipients must give DHS/FEMA access to, and the right to examine and copy, records, accounts, and other documents and sources of information related to the federal financial assistance award and permit access to facilities, personnel, and other individuals and information as may be necessary, as required by DHS regulations *and* other applicable laws or program guidance. See DHS Standard Terms and Conditions: Version 8.1 (2018). Additionally, Section 1225 of the Disaster Recovery Reform Act of 2018 prohibits FEMA from providing reimbursement to any state, local, tribal, or territorial government, or private non-profit for activities made pursuant to a contract that purports to prohibit audits or internal reviews by the FEMA administrator or Comptroller General.

Access to Records. The following access to records requirements apply to this contract:

i. The Contractor agrees to provide Participating Public Agency, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.

ii. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

iii. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

iv. In compliance with the Disaster Recovery Act of 2018, the Participating Public Agency and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

14. **CHANGES**

a. Standard. To be eligible for FEMA assistance under the non-Federal entity's FEMA grant or cooperative agreement, the cost of the change, modification, change order, or constructive change must be allowable, allocable, within the scope of its grant or cooperative agreement, and reasonable for the completion of project scope.

b. Applicability. FEMA recommends, therefore, that a non-Federal entity include a changes clause in its contract that describes how, if at all, changes can be made by either party to alter the method, price, or schedule of the work without breaching the contract. The language of the clause may differ depending on the nature of the contract and the end-item procured.

15. DHS SEAL, LOGO, AND FLAGS

a. Standard. Recipients must obtain permission prior to using the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials. See DHS Standard Terms and Conditions: Version 8.1 (2018).

b. Applicability. FEMA recommends that all non-Federal entities place in their contracts a provision that a contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

c. "The contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

16. COMPLIANCE WITH FEDERAL LAW, REGULATIONS, AND EXECUTIVE ORDERS

a. Standard. The recipient and its contractors are required to comply with all Federal laws, regulations, and executive orders.

b. Applicability. FEMA recommends that all non-Federal entities place into their contracts an acknowledgement that FEMA financial assistance will be used to fund the contract along with the requirement that the contractor will comply with all applicable Federal law, regulations, executive orders, and FEMA policies, procedures, and directives.

c. "This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives."

17. NO OBLIGATION BY FEDERAL GOVERNMENT

a. Standard. FEMA is not a party to any transaction between the recipient and its contractor. FEMA is not subject to any obligations or liable to any party for any matter relating to the contract.

b. Applicability. FEMA recommends that the non-Federal entity include a provision in its contract that states that the Federal Government is not a party to the contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.

c. "The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract."

18. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

a. Standard. Recipients must comply with the requirements of The False Claims Act (31 U.S.C. §§ 3729-3733) which prohibits the submission of false or

fraudulent claims for payment to the federal government. See DHS Standard Terms and Conditions: Version 8.1 (2018); and 31 U.S.C. §§ 3801-3812, which details the administrative remedies for false claims and statements made. The non-Federal entity must include a provision in its contract that the contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the contract.

b. Applicability. FEMA recommends that the non-Federal entity include a provision in its contract that the contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to its actions pertaining to the contract.

c. "The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract."

19. CLEAN WATER STATE REVOLVING FUNDS (CWSRF) AND DRINKING WATER STATE REVOLVING FUNDS (DWSRF)

Should agencies be utilizing Clean Water State Revolving or Drinking Water State Revolving Funds, the following may apply as indicated by the Participating Public Agency:

a. Neither the State, the U.S. EPA, nor any of its departments, agencies, or employees, are or will be a party to resulting work or local agreements when CWSRF or DWSRF are utilized.

b. All laborers and mechanics employed by contractors and subcontractors on projects on projects funded directly by or assisted in whole or in part by and through the Clean Water State Revolving Funds (CWSRF) or the Drinking Water State Revolving Funds (DWSRF) shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code. Wages to be paid on this project will be governed by the Department of Labor Wage General Decision or Decisions included in the bid documents for this project.

c. Equal Opportunity in Employment – All qualified applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), sexual orientation, gender identity, national origin, age (40 or older), disability or genetic information. Bidders on this work will be required to comply with the Department of Labor regulations at 41 CFR Part 60-4, relating to Construction Contractors -- Affirmative Action Requirements, which include the President's Executive Order No. 11246, as amended by Executive Order 11375 and Executive Order No. 13672, in the award and administration of contracts awarded under TWDB financial assistance agreements. Failure by the Contractor to carry out these requirements is a material breach, which may result in the termination of the awarded financial assistance.

d. Contractors shall comply with all record keeping and reporting requirements under the Clean Water Act/Safe Drinking Water Act, including any reports required by a Federal agency or the Finance Authority such as performance indicators of program deliverables, information on costs and project progress. The Participate understands that (i) each contract and subcontract related to the Project is subject to audit by appropriate federal and state entities and (ii) failure to comply with the Clean Water Act/Safe Drinking Water Act and this Agreement may be a default hereunder that results in a repayment of the Loan in advance of the maturity of the Bonds and/or other remedial actions. The Davis-Bacon prevailing wage requirements apply to Contractors and Subcontractors performing on federally funded or assisted contracts in excess of $2,000 for the construction, alteration or repair (including painting) of a treatment works project under the CWSRF or a construction project under the DWSRF.

e. For prime contracts in excess of $100,000, Contractors and Subcontractors must also, under the provisions of the Contract Work Hours and Safety Standards Act, as amended, pay laborers and mechanics, including guards and watchmen, at least one and one-half times their regular rate of pay for all hours worked over 40 in a workweek. The Fair Labor Standards Act may also apply to Davis-Bacon covered contracts.

f. Any contracts or subcontracts in excess of $2,000 must include the provisions of Davis-Bacon Wage Rate Requirements.

g. Any local agreements or work awarded under this solicitation are subject to the American Iron and Steel (AIS) requirements of Section 608 of the Federal Water Pollution Control Act if CWSRF or DWSRF are involved. As such, the Contractor hereby represents and warrants to and for the benefit of the Participating Public Agency that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in CWSRF or DWSRF related projects will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Participating Public Agency. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Participating Public Agency to enforce this Agreement and recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Participating Public Agency resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part.

Offeror agrees to comply with all terms and conditions outlined in the Special Conditions section of this solicitation.

Offeror's Name: ____

Address, City, State, and Zip Code:

____

Phone Number: ________________________ Fax Number: ______________________________

Printed Name and Title of Authorized Representative:

____

Email Address: ______________________________________

Signature of Authorized Representative: ____________________________________

Date: ________________________________

NEW JERSEY BUSINESS COMPLIANCE

Suppliers intending to do business in the State of New Jersey must comply with policies and procedures required under New Jersey statues. All offerors submitting proposals must complete the following forms specific to the State of New Jersey. Completed forms should be submitted with the offeror's response to the RFP. Failure to complete the New Jersey packet will impact OMNIA Partners' ability to promote the Master Agreement in the State of New Jersey.

DOC #1	Ownership Disclosure Form
DOC #2	Non-Collusion Affidavit
DOC #3	Affirmative Action Affidavit
DOC #4	Political Contribution Disclosure Form
DOC #5	Stockholder Disclosure Certification
DOC #6	Disclosure of Investment Activities in Iran, Russia and Belarus
DOC #7	New Jersey Business Registration Certificate
DOC #8	EEOAA Evidence
DOC #9	MacBride Principals Form

New Jersey suppliers are required to comply with the following New Jersey statutes when applicable:

- all anti-discrimination laws, including those contained in N.J.S.A. 10:2-1 through N.J.S.A. 10:2-14, N.J.S.A. 10:5-1, and N.J.S.A. 10:5-31 through 10:5-38;

- Prevailing Wage Act, N.J.S.A. 34:11-56.26, for all contracts within the contemplation of the Act;

- Public Works Contractor Registration Act, N.J.S.A. 34:11-56.26; and

- Bid and Performance Security, as required by the applicable municipal or state statutes.

STATEMENT OF OWNERSHIP DISCLOSURE

N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L. 2016, c.43)

This statement shall be completed, certified to, and included with all bid and proposal submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.

Name of Organization: ____

Organization Address: ____

Part I **Check the box that represents the type of business organization:**

☐ Sole Proprietorship (skip Parts II and III, execute certification in Part IV)

☐ Non-Profit Corporation (skip Parts II and III, execute certification in Part IV)

☐ For-Profit Corporation (any type) ☐ Limited Liability Company (LLC)

☐ Partnership ☐ Limited Partnership ☐ Limited Liability Partnership (LLP)

☐ Other (be specific): ____

Part II

☐ The list below contains the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be. (**COMPLETE THE LIST BELOW IN THIS SECTION**)

OR

☐ No one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or no member in the limited liability company owns a 10 percent or greater interest therein, as the case may be. (**SKIP TO PART IV**)

(Please attach additional sheets if more space is needed):

Name of Individual or Business Entity	Home Address (for Individuals) or Business Address

Part III DISCLOSURE OF 10% OR GREATER OWNERSHIP IN THE STOCKHOLDERS, PARTNERS OR LLC MEMBERS LISTED IN PART II

If a bidder has a direct or indirect parent entity which is publicly traded, and any person holds a 10 percent or greater beneficial interest in the publicly traded parent entity as of the last annual federal Security and Exchange Commission (SEC) or foreign equivalent filing, ownership disclosure can be met by providing links to the website(s) containing the last annual filing(s) with the federal Securities and Exchange Commission (or foreign equivalent) that contain the name and address of each person holding a 10% or greater beneficial interest in the publicly traded parent entity, along with the relevant page numbers of the filing(s) that contain the information on each such person. **Attach additional sheets if more space is needed**.

Website (URL) containing the last annual SEC (or foreign equivalent) filing	Page #'s

Please list the names and addresses of each stockholder, partner or member owning a 10 percent or greater interest in any corresponding corporation, partnership and/or limited liability company (LLC) listed in Part II **other than for any publicly traded parent entities referenced above**. The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, and member exceeding the 10 percent ownership criteria established pursuant to N.J.S.A. 52:25-24.2 has been listed. **Attach additional sheets if more space is needed.**

Stockholder/Partner/Member and Corresponding Entity Listed in Part II	Home Address (for Individuals) or Business Address

Part IV Certification

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder/proposer; that the ***<name of contracting unit>*** is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with ***<type of contracting unit>*** to notify the ***<type of contracting unit>*** in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the, permitting the ***<type of contracting unit>*** to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print):		Title:	
Signature:		Date:	

DOC #2

NON-COLLUSION AFFIDAVIT

<table>
<tr><th colspan="2">STANDARD BID DOCUMENT REFERENCE</th></tr>
<tr><td></td><td>Reference: VII-H</td></tr>
<tr><td>Name of Form:</td><td>NON-COLLUSION AFFIDAVIT</td></tr>
<tr><td>Statutory Reference:</td><td>No specific statutory reference
State Statutory Reference N.J.S.A. 52:34-15</td></tr>
<tr><td>Instructions Reference:</td><td>Statutory and Other Requirements VII-H</td></tr>
<tr><td>Description:</td><td>The Owner’s use of this form is optional. It is used to ensure that the bidder has not participated in any collusion with any other bidder or Owner representative or otherwise taken any action in restraint of free and competitive bidding.</td></tr>
</table>

NON-COLLUSION AFFIDAVIT

State of New Jersey
County of ________________ ss:

I, ______________________________ residing in ________________________________
(name of affiant) (name of municipality)
in the County of _____________________________ and State of ____________________of full age, being duly sworn according to law on my oath depose and say that:

I am __________________________________ of the firm of _______________________
(title or position) (name of firm)

__________________________________ the bidder making this Proposal for the bid

entitled ___________________________, and that I executed the said proposal with
(title of bid proposal)
full authority to do so that said bidder has not, directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named project; and that all statements contained in said proposal and in this affidavit are true and correct, and made with full knowledge that the _____________
_______________________relies upon the truth of the statements contained in said Proposal
(name of contracting unit)
and in the statements contained in this affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by ____.

Subscribed and sworn to

before me this day ___________________________
Signature

________________, 2____ ________________________________
(Type or print name of affiant under signature)

____
Notary public of

My Commission expires ______________

(Seal)

AFFIRMATIVE ACTION AFFIDAVIT
(P.L. 1975, C.127)

Company Name: ____

Street: ____

City, State, Zip Code: ____

Proposal Certification:

Indicate below company's compliance with New Jersey Affirmative Action regulations. Company's proposal will be accepted even if company is not in compliance at this time. No contract and/or purchase order may be issued, however, until all Affirmative Action requirements are met.

Required Affirmative Action Evidence:

Procurement, Professional & Service Contracts (Exhibit A)

Vendors must submit with proposal:

1. A photocopy of a valid letter that the contractor is operating under an existing Federally approved or sanctioned affirmative action program (good for one year from the date of the letter);

   OR

2. A photocopy of a Certificate of Employee Information Report approval, issued in accordance with N.J.A.C. 17:27-4;

   OR

3. A photocopy of an Employee Information Report (Form AA302) provided by the Division of Contract Compliance and Equal Employment Opportunity in Public Contracts and distributed to the public agency to be completed by the contractor in accordance with N.J.A.C. 17:27-4.

Public Work – Over $50,000 Total Project Cost:

A. No approved Federal or New Jersey Affirmative Action Plan. We will complete Report Form AA201. A project contract ID number will be assigned to your firm upon receipt of the completed Initial Project Workforce Report (AA201) for this contract.

B. Approved Federal or New Jersey Plan – certificate enclosed

I further certify that the statements and information contained herein, are complete and correct to the best of my knowledge and belief.

________________________ ________________________________

Date ***Authorized Signature and Title***

P.L. 1995, c. 127 (N.J.A.C. 17:27)
MANDATORY AFFIRMATIVE ACTION LANGUAGE

PROCUREMENT, PROFESSIONAL AND SERVICE CONTRACTS

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

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. The contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this non-discrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisement for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation.

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

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time and the Americans with Disabilities Act.

The contractor or subcontractor agrees to attempt in good faith to employ minority and female workers trade consistent with the applicable county employment goal prescribed by N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, C.127, as amended and supplemented from time to time or in accordance with a binding determination of the applicable county employment goals determined by the Affirmative Action Office pursuant to N.J.A.C. 17:27-5.2 promulgated by the Treasurer pursuant to P.L. 1975, C.127, as amended and supplemented from time to time.

The contractor or subcontractor agrees to inform in writing appropriate recruitment agencies in the area, including employment agencies, placement bureaus, colleges, universities, labor unions, that it does not discriminate on the basis of age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.

The contractor or subcontractor agrees to revise any of it testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by the statutes and court decisions of the state of New Jersey and as established by applicable Federal law and applicable Federal court decisions.

The contractor or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and lay-off to ensure that all such actions are taken without regard to age, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation, and conform with the applicable employment goals, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

The contractor and its subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Affirmative Action Office for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code (NJAC 17:27).

____

Signature of Procurement Agent

C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM

Public Agency Instructions

This page provides guidance to public agencies entering into contracts with business entities that are required to file Political Contribution Disclosure forms with the agency. **It is not intended to be provided to contractors.** What follows are instructions on the use of form local units can provide to contractors that are required to disclose political contributions pursuant to N.J.S.A. 19:44A-20.26 (P.L. 2005, c. 271, s.2). Additional information on the process is available in Local Finance Notice 2006-1 (http://www.nj.gov/dca/divisions/dlgs/resources/lfns_2006.html). Please refer back to these instructions for the appropriate links, as the Local Finance Notices include links that are no longer operational.

1. The disclosure is required for all contracts in excess of $17,500 that are **not awarded** pursuant to a “fair and open” process (N.J.S.A. 19:44A-20.7).
2. Due to the potential length of some contractor submissions, the public agency should consider allowing data to be submitted in electronic form (i.e., spreadsheet, pdf file, etc.). Submissions must be kept with the contract documents or in an appropriate computer file and be available for public access. **The form is worded to accept this alternate submission.** The text should be amended if electronic submission will not be allowed.
3. The submission must be **received from the contractor and** on file at least 10 days prior to award of the contract. Resolutions of award should reflect that the disclosure has been received and is on file.
4. The contractor must disclose contributions made to candidate and party committees covering a wide range of public agencies, including all public agencies that have elected officials in the county of the public agency, state legislative positions, and various state entities. The Division of Local Government Services recommends that contractors be provided a list of the affected agencies. This will assist contractors in determining the campaign and political committees of the officials and candidates affected by the disclosure.
    a. The Division has prepared model disclosure forms for each county. They can be downloaded from the “County PCD Forms” link on the Pay-to-Play web site at http://www.nj.gov/dca/divisions/dlgs/programs/lpcl.html#12. They will be updated from time-to-time as necessary.
    b. A public agency using these forms **should edit them to properly reflect the correct legislative district**(s). As the forms are county-based, **they list all legislative districts** in each county. **Districts that do not represent the public agency should be removed from the lists.**
    c. Some contractors may find it easier to provide a single list that covers all contributions, regardless of the county. These submissions are appropriate and should be accepted.
    d. The form may be used “as-is”, subject to edits as described herein.
    e. The “Contractor Instructions” sheet is intended to be provided with the form. It is recommended that the Instructions and the form be printed on the same piece of paper. The form notes that the Instructions are printed on the back of the form; where that is not the case, the text should be edited accordingly.
    f. The form is a Word document and can be edited to meet local needs, and posted for download on web sites, used as an e-mail attachment, or provided as a printed document.
5. It is recommended that the contractor also complete a “Stockholder Disclosure Certification.” This will assist the local unit in its obligation to ensure that contractor did not make any prohibited contributions to the committees listed on the Business Entity Disclosure Certification in the 12 months prior to the contract (See Local Finance Notice 2006-7 for additional information on this obligation at http://www.nj.gov/dca/divisions/dlgs/resources/lfns_2006.html). A sample Certification form is part of this package and the instruction to complete it is included in the Contractor Instructions. NOTE: This section is not applicable to Boards of Education.

C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM

Contractor Instructions

Business entities (contractors) receiving contracts from a public agency that are NOT awarded pursuant to a "fair and open" process (defined at N.J.S.A. 19:44A-20.7) are subject to the provisions of P.L. 2005, c. 271, s.2 (N.J.S.A. 19:44A-20.26). This law provides that 10 days prior to the award of such a contract, the contractor shall disclose contributions to:

- any State, county, or municipal committee of a political party
- any legislative leadership committee*
- any continuing political committee (a.k.a., political action committee)
- any candidate committee of a candidate for, or holder of, an elective office:
  - of the public entity awarding the contract
  - of that county in which that public entity is located
  - of another public entity within that county
  - or of a legislative district in which that public entity is located or, when the public entity is a county, of any legislative district which includes all or part of the county

The disclosure must list reportable contributions to any of the committees that exceed $300 per election cycle that were made during the 12 months prior to award of the contract. See N.J.S.A. 19:44A-8 and 19:44A-16 for more details on reportable contributions.

N.J.S.A. 19:44A-20.26 itemizes the parties from whom contributions must be disclosed when a business entity is not a natural person. This includes the following:

- individuals with an "interest" ownership or control of more than 10% of the profits or assets of a business entity or 10% of the stock in the case of a business entity that is a corporation for profit
- all principals, partners, officers, or directors of the business entity or their spouses
- any subsidiaries directly or indirectly controlled by the business entity
- IRS Code Section 527 New Jersey based organizations, directly or indirectly controlled by the business entity and filing as continuing political committees, (PACs).

When the business entity is a natural person, "a contribution by that person's spouse or child, residing therewith, shall be deemed to be a contribution by the business entity." [N.J.S.A. 19:44A-20.26(b)] The contributor must be listed on the disclosure.

Any business entity that fails to comply with the disclosure provisions shall be subject to a fine imposed by ELEC in an amount to be determined by the Commission which may be based upon the amount that the business entity failed to report.

The enclosed list of agencies is provided to assist the contractor in identifying those public agencies whose elected official and/or candidate campaign committees are affected by the disclosure requirement. It is the contractor's responsibility to identify the specific committees to which contributions may have been made and need to be disclosed. The disclosed information may exceed the minimum requirement.

The enclosed form, a content-consistent facsimile, or an electronic data file containing the required details (along with a signed cover sheet) may be used as the contractor's submission and is disclosable to the public under the Open Public Records Act.

The contractor must also complete the attached Stockholder Disclosure Certification. This will assist the agency in meeting its obligations under the law. **NOTE: This section does not apply to Board of Education contracts.**

* N.J.S.A. 19:44A-3(s): "The term "legislative leadership committee" means a committee established, authorized to be established, or designated by the President of the Senate, the Minority Leader of the Senate, the Speaker of the General Assembly or the Minority Leader of the General Assembly pursuant to section 16 of P.L.1993, c.65 (C.19:44A-10.1) for the purpose of receiving contributions and making expenditures."

C. 271 POLITICAL CONTRIBUTION DISCLOSURE FORM

Required Pursuant to N.J.S.A. 19:44A-20.26

This form or its permitted facsimile must be submitted to the local unit no later than 10 days prior to the award of the contract.

Part I – Vendor Information

Vendor Name:			
Address:			
City:		State:	Zip:

The undersigned being authorized to certify, hereby certifies that the submission provided herein represents compliance with the provisions of N.J.S.A. 19:44A-20.26 and as represented by the Instructions accompanying this form.

_______________________ _______________________ _______________________

Signature Printed Name Title

Part II – Contribution Disclosure

Disclosure requirement: Pursuant to N.J.S.A. 19:44A-20.26 this disclosure must include all reportable political contributions (more than $300 per election cycle) over the 12 months prior to submission to the committees of the government entities listed on the form provided by the local unit.

☐ Check here if disclosure is provided in electronic form

Contributor Name	Recipient Name	Date	Dollar Amount
			$

☐ Check here if the information is continued on subsequent page(s)

List of Agencies with Elected Officials Required for Political Contribution Disclosure
N.J.S.A. 19:44A-20.26

County Name:
State: Governor, and Legislative Leadership Committees
Legislative District #s:
State Senator and two members of the General Assembly per district.

County:

Freeholders	County Clerk	Sheriff
{County Executive}	Surrogate	

Municipalities (Mayor and members of governing body, regardless of title):

USERS SHOULD CREATE THEIR OWN FORM, OR DOWNLOAD FROM THE PAY TO PLAY SECTION OF THE DLGS WEBSITE A COUNTY-BASED, CUSTOMIZABLE FORM.

DOC #5

STOCKHOLDER DISCLOSURE CERTIFICATION

Name of Business:

☐ I certify that the list below contains the names and home addresses of all stockholders holding 10% or more of the issued and outstanding stock of the undersigned.

OR

☐ I certify that no one stockholder owns 10% or more of the issued and outstanding stock of the undersigned.

Check the box that represents the type of business organization:

☐ Partnership ☐ Corporation ☐ Sole Proprietorship

☐ Limited Partnership ☐ Limited Liability Corporation ☐ Limited Liability Partnership

☐ Subchapter S Corporation

Sign and notarize the form below, and, if necessary, complete the stockholder list below.

<u>Stockholders:</u>

Name: Home Address:	Name: Home Address:
Name: Home Address:	Name: Home Address:
Name: Home Address:	Name: Home Address:

Subscribed and sworn before me this ___ day of ___________, 2__.	_______________________________ (Affiant)
(Notary Public)	_______________________________ (Print name & title of affiant)
My Commission expires:	(Corporate Seal)

DOC #6

DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN, RUSSIA AND BELARUS
N.J.S.A. 52:32-57, et seq. (P.L. 2012, c.25 and P.L. 2021, c.4) and N.J.S.A. 52:32-60.1

Pursuant to N.J.S.A. 52:32-57, et seq. (P.L. 2012, c.25 and P.L. 2021, c.4) and N.J.S.A. 52:32-60.1 any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must certify that neither the person nor entity, nor any of its parents, subsidiaries, or affiliates, is identified on the New Jersey Department of the Treasury's Chapter 25 List as a person or entity engaged in investment activities in Iran, Russia or Belarus. The Chapter 25 list is found on the Division's website at https://www.state.nj.us/treasury/purchase/. Vendors/Bidders must review this list prior to completing the below certification. If the Qualified Purchasing Agent of the Atlantic County Utilities Authority finds a person or entity to be in violation of the law, he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

CHECK THE APPROPRIATE BOX

☐ I certify, pursuant to N.J.S.A. 52:32-57, et seq. (P.L. 2012, c.25 and P.L. 2021, c.4), and N.J.S.A. 52:32-60.1 that neither the Vendor/Bidder listed above nor any of its parents, subsidiaries, or affiliates is listed on the New Jersey Department of the Treasury's Chapter 25 List of entities determined to be engaged in prohibited activities in Iran, Russia or Belarus.

OR

☐ I am unable to certify as above because the Vendor/Bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the New Jersey Department of the Treasury's Chapter 25 List. I will provide a detailed, accurate and precise description of the activities of the Vendor/Bidder, or one of its parents, subsidiaries or affiliates, has engaged in regarding investment activities in Iran by completing the information requested below.

Entity Engaged in Investment Activities ______________________________

Relationship to Vendor/ Bidder ______________________________

Description of Activities ______________________________

____

____

Duration of Engagement ______________________________

Anticipated Cessation Date ______________________________

Attach Additional Sheets If Necessary.

CERTIFICATION

I, the undersigned, certify that I am authorized to execute this certification on behalf of the Vendor, that the foregoing information and any attachments hereto, to the best of my knowledge are true and complete. I acknowledge that the ACUA is relying on the information contained herein, and that the Vendor is under a continuing obligation from the date of this certification through the completion of any contract(s) with the ACUA to notify the Qualified Purchasing Agent in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I will be subject to criminal prosecution under the law, and it will constitute a material breach of my agreement(s) with the ACUA, I am permitting the ACUA to declare any contract(s) resulting from this certification void and unenforceable.

______________________________	______________________________
Printed Name of Authorized Agent	*Signature of Authorized Agent*
______________________________	______________________________
Title	*Date*

____

Company Name

NEW JERSEY BUSINESS REGISTRATION CERTIFICATE
(N.J.S.A. 52:32-44)

Offerors wishing to do business in New Jersey must submit their State Division of Revenue issued Business Registration Certificate with their proposal here. Failure to do so will disqualify the Offeror from offering products or services in New Jersey through any resulting contract.

https://www.njportal.com/DOR/BusinessRegistration/

DOC #8

EEOAA EVIDENCE

Equal Employment Opportunity/Affirmative Action
Goods, Professional Services & General Service Projects

EEO/AA Evidence

Vendors are required to submit evidence of compliance with N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27 in order to be considered a responsible vendor.

One of the following must be included with submission:

- Copy of Letter of Federal Approval
- Certificate of Employee Information Report
- Fully Executed Form AA302
- Fully Executed EEO-1 Report

See the guidelines at:
https://www.state.nj.us/treasury/contract_compliance/documents/pdf/guidelines/pa.pdf
for further information.

I certify that my bid package includes the required evidence per the above list and State website.

Name: ______________________________ Title: _____________________

Signature: ___________________________ Date: _____________________

DOC #9

MACBRIDE-PRINCIPLES

STATE OF NEW JERSEY DEPARTMENT OF THE TREASURY
DIVISION OF PURCHASE AND PROPERTY

33 WEST STATE STREET, P.O. BOX 230
TRENTON, NEW JERSEY 08625-0230

MACBRIDE PRINCIPALS FORM

BID SOLICITATION #: ___________ **VENDOR/BIDDER:** ______________________

VENDOR'S/BIDDER'S REQUIREMENT
TO PROVIDE A CERTIFICATION IN COMPLIANCE WITH THE MACBRIDE PRINCIPALS AND NORTHERN IRELAND ACT OF 1989

Pursuant to Public Law 1995, c. 134, a responsible Vendor/Bidder selected, after public bidding, by the Director of the Division of Purchase and Property, pursuant to N.J.S.A. 52:34-12, must complete the certification below by checking one of the two options listed below and signing where indicated. If a Vendor/Bidder that would otherwise be awarded a purchase, contract or agreement does not complete the certification, then the Director may determine, in accordance with applicable law and rules, that it is in the best interest of the State to award the purchase, contract or agreement to another Vendor/Bidder that has completed the certification and has submitted a bid within five (5) percent of the most advantageous bid. If the Director finds contractors to be in violation of the principals that are the subject of this law, he/she shall take such action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

I, the undersigned, on behalf the Vendor/Bidder, certify pursuant to N.J.S.A. 52:34-12.2 that:

CHECK THE APPROPRIATE BOX

☐ The Vendor/Bidder has no business operations in Northern Ireland; or

OR

☐ The Vendor/Bidder will take lawful steps in good faith to conduct any business operations it has in Northern Ireland in accordance with the MacBride principals of nondiscrimination in employment as set forth in section 2 of P.L. 1987, c. 177 (N.J.S.A. 52:18A-89.5) and in conformance with the United Kingdom's Fair Employment (Northern Ireland) Act of 1989, and permit independent monitoring of its compliance with those principals.

CERTIFICATION

I, the undersigned, certify that I am authorized to execute this certification on behalf of the Vendor/Bidder, that the foregoing information and any attachments hereto, to the best of my knowledge are true and complete. I acknowledge that the State of New Jersey is relying on the information contained herein, and that the Vendor/Bidder is under a continuing obligation from the date of this certification through the completion of any contract(s) with the State to notify the State in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I will be subject to criminal prosecution under the law, and it will constitute a material breach of **my** agreement(s) with the State, permitting the State to declare any contract(s) resulting from this certification to be void and unenforceable.

______________________________ ______________________________
Signature Date

____

Print Name and Title

Exhibit H
Advertising Compliance Requirement

Pursuant to certain state notice provisions, including but not limited to Oregon Revised Statutes Chapter 279A.210, Chapter 279A.220, and other related provisions, the following public agencies and political subdivisions of the referenced public agencies are eligible to register with OMNIA Partners and access the Master Agreement contract award made pursuant to this solicitation, and are hereby given notice of the foregoing request for proposals for purposes of complying with the procedural requirements of said statutes:

Nationwide:

State of Alabama	State of Hawaii	Commonwealth of Massachusetts	State of New Mexico	State of South Dakota
State of Alaska	State of Idaho	State of Michigan	State of New York	State of Tennessee
State of Arizona	State of Illinois	State of Minnesota	State of North Carolina	State of Texas
State of Arkansas	State of Indiana	State of Mississippi	State of North Dakota	State of Utah
State of California	State of Iowa	State of Missouri	State of Ohio	State of Vermont
State of Colorado	State of Kansas	State of Montana	State of Oklahoma	Commonwealth of Virginia
State of Connecticut	Commonwealth of Kentucky	State of Nebraska	State of Oregon	State of Washington
State of Delaware	State of Louisiana	State of Nevada	Commonwealth of Pennsylvania	State of West Virginia
State of Florida	State of Maine	State of New Hampshire	State of Rhode Island	State of Wisconsin
State of Georgia	State of Maryland	State of New Jersey	State of South Carolina	State of Wyoming
District of Columbia				

Lists of political subdivisions and local governments in the above referenced states / districts may be found at http://www.usa.gov/Agencies/State_and_Territories.shtml and https://www.usa.gov/local-governments.

Certain Public Agencies and Political Subdivisions:

CITIES, TOWNS, VILLAGES AND BOROUGHS INCLUDING BUT NOT LIMITED TO:
BAKER CITY GOLF COURSE, OR
CITY OF ADAIR VILLAGE, OR
CITY OF ASHLAND, OR
CITY OF AUMSVILLE, OR
CITY OF AURORA, OR
CITY OF BAKER, OR
CITY OF BATON ROUGE, LA
CITY OF BEAVERTON, OR
CITY OF BEND, OR
CITY OF BOARDMAN, OR
CITY OF BONANAZA, OR
CITY OF BOSSIER CITY, LA
CITY OF BROOKINGS, OR
CITY OF BURNS, OR
CITY OF CANBY, OR
CITY OF CANYONVILLE, OR
CITY OF CLATSKANIE, OR
CITY OF COBURG, OR
CITY OF CONDON, OR
CITY OF COQUILLE, OR
CITY OF CORVALLI, OR
CITY OF CORVALLIS PARKS AND RECREATION DEPARTMENT, OR
CITY OF COTTAGE GROVE, OR
CITY OF DONALD, OR
CITY OF EUGENE, OR
CITY OF FOREST GROVE, OR
CITY OF GOLD HILL, OR
CITY OF GRANTS PASS, OR
CITY OF GRESHAM, OR
CITY OF HILLSBORO, OR
CITY OF INDEPENDENCE, OR
CITY AND COUNTY OF HONOLULU, HI
CITY OF KENNER, LA
CITY OF LA GRANDE, OR
CITY OF LAFAYETTE, LA
CITY OF LAKE CHARLES, OR
CITY OF LEBANON, OR
CITY OF MCMINNVILLE, OR
CITY OF MEDFORD, OR
CITY OF METAIRIE, LA
CITY OF MILL CITY, OR
CITY OF MILWAUKIE, OR
CITY OF MONROE, LA
CITY OF MOSIER, OR
CITY OF NEW ORLEANS, LA
CITY OF NORTH PLAINS, OR
CITY OF OREGON CITY, OR
CITY OF PILOT ROCK, OR
CITY OF PORTLAND, OR
CITY OF POWERS, OR
CITY OF PRINEVILLE, OR
CITY OF REDMOND, OR
CITY OF REEDSPORT, OR
CITY OF RIDDLE, OR
CITY OF ROGUE RIVER, OR

CITY OF ROSEBURG, OR
CITY OF SALEM, OR
CITY OF SANDY, OR
CITY OF SCAPPOOSE, OR
CITY OF SHADY COVE, OR
CITY OF SHERWOOD, OR
CITY OF SHREVEPORT, LA
CITY OF SILVERTON, OR
CITY OF SPRINGFIELD, OR
CITY OF ST. HELENS, OR
CITY OF ST. PAUL, OR
CITY OF SULPHUR, LA
CITY OF TIGARD, OR
CITY OF TROUTDALE, OR
CITY OF TUALATIN, OR
CITY OF WALKER, LA
CITY OF WARRENTON, OR
CITY OF WEST LINN, OR
CITY OF WILSONVILLE, OR
CITY OF WINSTON, OR
CITY OF WOODBURN, OR
LEAGUE OF OREGON CITES
THE CITY OF HAPPY VALLEY OREGON
ALPINE, UT
ALTA, UT
ALTAMONT, UT
ALTON, UT
AMALGA, UT
AMERICAN FORK CITY, UT
ANNABELLA, UT
ANTIMONY, UT
APPLE VALLEY, UT
AURORA, UT
BALLARD, UT
BEAR RIVER CITY, UT
BEAVER, UT
BICKNELL, UT
BIG WATER, UT
BLANDING, UT
BLUFFDALE, UT
BOULDER, UT
CITY OF BOUNTIFUL, UT
BRIAN HEAD, UT
BRIGHAM CITY CORPORATION, UT
BRYCE CANYON CITY, UT
CANNONVILLE, UT
CASTLE DALE, UT
CASTLE VALLEY, UT
CITY OF CEDAR CITY, UT
CEDAR FORT, UT
CITY OF CEDAR HILLS, UT
CENTERFIELD, UT
CENTERVILLE CITY CORPORATION, UT
CENTRAL VALLEY, UT
CHARLESTON, UT
CIRCLEVILLE, UT
CLARKSTON, UT
CLAWSON, UT
CLEARFIELD, UT
CLEVELAND, UT
CLINTON CITY CORPORATION, UT
COALVILLE, UT
CORINNE, UT
CORNISH, UT
COTTONWOOD HEIGHTS, UT
DANIEL, UT
DELTA, UT
DEWEYVILLE, UT
DRAPER CITY, UT
DUCHESNE, UT
EAGLE MOUNTAIN, UT
EAST CARBON, UT
ELK RIDGE, UT
ELMO, UT
ELSINORE, UT
ELWOOD, UT
EMERY, UT
ENOCH, UT
ENTERPRISE, UT
EPHRAIM, UT
ESCALANTE, UT
EUREKA, UT
FAIRFIELD, UT
FAIRVIEW, UT
FARMINGTON, UT
FARR WEST, UT
FAYETTE, UT
FERRON, UT
FIELDING, UT
FILLMORE, UT
FOUNTAIN GREEN, UT
FRANCIS, UT
FRUIT HEIGHTS, UT
GARDEN CITY, UT
GARLAND, UT
GENOLA, UT
GLENDALE, UT
GLENWOOD, UT
GOSHEN, UT
GRANTSVILLE, UT
GREEN RIVER, UT
GUNNISON, UT
HANKSVILLE, UT
HARRISVILLE, UT
HATCH, UT
HEBER CITY CORPORATION, UT
HELPER, UT
HENEFER, UT
HENRIEVILLE, UT
HERRIMAN, UT
HIDEOUT, UT
HIGHLAND, UT
HILDALE, UT
HINCKLEY, UT
HOLDEN, UT
HOLLADAY, UT
HONEYVILLE, UT
HOOPER, UT
HOWELL, UT
HUNTINGTON, UT
HUNTSVILLE, UT
CITY OF HURRICANE, UT
HYDE PARK, UT
HYRUM, UT
INDEPENDENCE, UT
IVINS, UT
JOSEPH, UT
JUNCTION, UT
KAMAS, UT
KANAB, UT
KANARRAVILLE, UT
KANOSH, UT
KAYSVILLE, UT
KINGSTON, UT

KOOSHAREM, UT
LAKETOWN, UT
LA VERKIN, UT
LAYTON, UT
LEAMINGTON, UT
LEEDS, UT
LEHI CITY CORPORATION, UT
LEVAN, UT
LEWISTON, UT
LINDON, UT
LOA, UT
LOGAN CITY, UT
LYMAN, UT
LYNNDYL, UT
MANILA, UT
MANTI, UT
MANTUA, UT
MAPLETON, UT
MARRIOTT-SLATERVILLE, UT
MARYSVALE, UT
MAYFIELD, UT
MEADOW, UT
MENDON, UT
MIDVALE CITY INC., UT
MIDWAY, UT
MILFORD, UT
MILLVILLE, UT
MINERSVILLE, UT
MOAB, UT
MONA, UT
MONROE, UT
CITY OF MONTICELLO, UT
MORGAN, UT
MORONI, UT
MOUNT PLEASANT, UT
MURRAY CITY CORPORATION, UT
MYTON, UT
NAPLES, UT
NEPHI, UT
NEW HARMONY, UT
NEWTON, UT
NIBLEY, UT
NORTH LOGAN, UT
NORTH OGDEN, UT
NORTH SALT LAKE CITY, UT
OAK CITY, UT
OAKLEY, UT
OGDEN CITY CORPORATION, UT
OPHIR, UT
ORANGEVILLE, UT
ORDERVILLE, UT
OREM, UT
PANGUITCH, UT
PARADISE, UT
PARAGONAH, UT
PARK CITY, UT
PAROWAN, UT
PAYSON, UT
PERRY, UT
PLAIN CITY, UT
PLEASANT GROVE CITY, UT
PLEASANT VIEW, UT
PLYMOUTH, UT
PORTAGE, UT
PRICE, UT
PROVIDENCE, UT
PROVO, UT
RANDOLPH, UT
REDMOND, UT
RICHFIELD, UT
RICHMOND, UT
RIVERDALE, UT
RIVER HEIGHTS, UT
RIVERTON CITY, UT
ROCKVILLE, UT
ROCKY RIDGE, UT
ROOSEVELT CITY CORPORATION, UT
ROY, UT
RUSH VALLEY, UT
CITY OF ST. GEORGE, UT
SALEM, UT
SALINA, UT
SALT LAKE CITY CORPORATION, UT
SANDY, UT
SANTA CLARA, UT
SANTAQUIN, UT
SARATOGA SPRINGS, UT
SCIPIO, UT
SCOFIELD, UT
SIGURD, UT
SMITHFIELD, UT
SNOWVILLE, UT
CITY OF SOUTH JORDAN, UT
SOUTH OGDEN, UT
CITY OF SOUTH SALT LAKE, UT
SOUTH WEBER, UT
SPANISH FORK, UT
SPRING CITY, UT
SPRINGDALE, UT
SPRINGVILLE, UT
STERLING, UT
STOCKTON, UT
SUNNYSIDE, UT
SUNSET CITY CORP, UT
SYRACUSE, UT
TABIONA, UT
CITY OF TAYLORSVILLE, UT
TOOELE CITY CORPORATION, UT
TOQUERVILLE, UT
TORREY, UT
TREMONTON CITY, UT
TRENTON, UT
TROPIC, UT
UINTAH, UT
VERNAL CITY, UT
VERNON, UT
VINEYARD, UT
VIRGIN, UT
WALES, UT
WALLSBURG, UT
WASHINGTON CITY, UT
WASHINGTON TERRACE, UT
WELLINGTON, UT
WELLSVILLE, UT
WENDOVER, UT
WEST BOUNTIFUL, UT
WEST HAVEN, UT
WEST JORDAN, UT
WEST POINT, UT
WEST VALLEY CITY, UT
WILLARD, UT
WOODLAND HILLS, UT
WOODRUFF, UT
WOODS CROSS, UT

COUNTIES AND PARISHES INCLUDING BUT NOT LIMITED TO:

ASCENSION PARISH, LA
ASCENSION PARISH, LA, CLEAR OF COURT
CADDO PARISH, LA
CALCASIEU PARISH, LA
CALCASIEU PARISH SHERIFF’S OFFICE, LA
CITY AND COUNTY OF HONOLULU, HI
CLACKAMAS COUNTY, OR
CLACKAMAS COUNTY DEPT OF TRANSPORTATION, OR
CLATSOP COUNTY, OR
COLUMBIA COUNTY, OR
COOS COUNTY, OR
COOS COUNTY HIGHWAY DEPARTMENT, OR
COUNTY OF HAWAII, OR
CROOK COUNTY, OR
CROOK COUNTY ROAD DEPARTMENT, OR
CURRY COUNTY, OR
DESCHUTES COUNTY, OR
DOUGLAS COUNTY, OR
EAST BATON ROUGE PARISH, LA
GILLIAM COUNTY, OR
GRANT COUNTY, OR
HARNEY COUNTY, OR
HARNEY COUNTY SHERIFFS OFFICE, OR
HAWAII COUNTY, HI
HOOD RIVER COUNTY, OR
JACKSON COUNTY, OR
JEFFERSON COUNTY, OR
JEFFERSON PARISH, LA
JOSEPHINE COUNTY GOVERNMENT, OR
LAFAYETTE CONSOLIDATED GOVERNMENT, LA
LAFAYETTE PARISH, LA
LAFAYETTE PARISH CONVENTION & VISITORS COMMISSION
LAFOURCHE PARISH, LA
KAUAI COUNTY, HI
KLAMATH COUNTY, OR
LAKE COUNTY, OR
LANE COUNTY, OR
LINCOLN COUNTY, OR
LINN COUNTY, OR
LIVINGSTON PARISH, LA
MALHEUR COUNTY, OR
MAUI COUNTY, HI
MARION COUNTY, SALEM, OR
MORROW COUNTY, OR
MULTNOMAH COUNTY, OR
MULTNOMAH COUNTY BUSINESS AND COMMUNITY SERVICES, OR
MULTNOMAH COUNTY SHERIFFS OFFICE, OR
MULTNOMAH LAW LIBRARY, OR
ORLEANS PARISH, LA
PLAQUEMINES PARISH, LA
POLK COUNTY, OR
RAPIDES PARISH, LA
SAINT CHARLES PARISH, LA
SAINT CHARLES PARISH PUBLIC SCHOOLS, LA
SAINT LANDRY PARISH, LA
SAINT TAMMANY PARISH, LA
SHERMAN COUNTY, OR
TERREBONNE PARISH, LA
TILLAMOOK COUNTY, OR
TILLAMOOK COUNTY SHERIFF'S OFFICE, OR
TILLAMOOK COUNTY GENERAL HOSPITAL, OR
UMATILLA COUNTY, OR
UNION COUNTY, OR
WALLOWA COUNTY, OR
WASCO COUNTY, OR
WASHINGTON COUNTY, OR
WEST BATON ROUGE PARISH, LA
WHEELER COUNTY, OR
YAMHILL COUNTY, OR
COUNTY OF BOX ELDER, UT
COUNTY OF CACHE, UT
COUNTY OF RICH, UT
COUNTY OF WEBER, UT
COUNTY OF MORGAN, UT
COUNTY OF DAVIS, UT
COUNTY OF SUMMIT, UT
COUNTY OF DAGGETT, UT
COUNTY OF SALT LAKE, UT
COUNTY OF TOOELE, UT
COUNTY OF UTAH, UT
COUNTY OF WASATCH, UT
COUNTY OF DUCHESNE, UT
COUNTY OF UINTAH, UT
COUNTY OF CARBON, UT
COUNTY OF SANPETE, UT
COUNTY OF JUAB, UT
COUNTY OF MILLARD, UT
COUNTY OF SEVIER, UT
COUNTY OF EMERY, UT
COUNTY OF GRAND, UT
COUNTY OF BEVER, UT
COUNTY OF PIUTE, UT
COUNTY OF WAYNE, UT
COUNTY OF SAN JUAN, UT
COUNTY OF GARFIELD, UT
COUNTY OF KANE, UT
COUNTY OF IRON, UT
COUNTY OF WASHINGTON, UT

OTHER AGENCIES INCLUDING ASSOCIATIONS, BOARDS, DISTRICTS, COMMISSIONS, COUNCILS, PUBLIC CORPORATIONS, PUBLIC DEVELOPMENT AUTHORITIES, RESERVATIONS AND UTILITIES INCLUDING BUT NOT LIMITED TO:

ADAIR R.F.P.D., OR
ADEL WATER IMPROVEMENT DISTRICT, OR
ADRIAN R.F.P.D., OR
AGNESS COMMUNITY LIBRARY, OR
AGNESS-ILLAHE R.F.P.D., OR
AGRICULTURE EDUCATION SERVICE EXTENSION DISTRICT, OR
ALDER CREEK-BARLOW WATER DISTRICT NO. 29, OR
ALFALFA FIRE DISTRICT, OR
ALSEA R.F.P.D., OR
ALSEA RIVIERA WATER IMPROVEMENT DISTRICT, OR
AMITY FIRE DISTRICT, OR
ANTELOPE MEADOWS SPECIAL ROAD DISTRICT, OR
APPLE ROGUE DISTRICT IMPROVEMENT COMPANY, OR
APPLEGATE VALLEY R.F.P.D. #9, OR
ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, OR
ARCH CAPE SANITARY DISTRICT, OR
ARNOLD IRRIGATION DISTRICT, OR
ASH CREEK WATER CONTROL DISTRICT, OR
ATHENA CEMETERY MAINTENANCE DISTRICT, OR

AUMSVILLE R.F.P.D., OR
AURORA R.F.P.D., OR
AZALEA R.F.P.D., OR
BADGER IMPROVEMENT DISTRICT, OR
BAILEY-SPENCER R.F.P.D., OR
BAKER COUNTY LIBRARY DISTRICT, OR
BAKER R.F.P.D., OR
BAKER RIVERTON ROAD DISTRICT, OR
BAKER VALLEY IRRIGATION DISTRICT, OR
BAKER VALLEY S.W.C.D., OR
BAKER VALLEY VECTOR CONTROL DISTRICT, OR
BANDON CRANBERRY WATER CONTROL DISTRICT, OR
BANDON R.F.P.D., OR
BANKS FIRE DISTRICT, OR
BANKS FIRE DISTRICT #13, OR
BAR L RANCH ROAD DISTRICT, OR
BARLOW WATER IMPROVEMENT DISTRICT, OR
BASIN AMBULANCE SERVICE DISTRICT, OR
BASIN TRANSIT SERVICE TRANSPORTATION DISTRICT, OR
BATON ROUGE WATER COMPANY
BAY AREA HEALTH DISTRICT, OR
BAYSHORE SPECIAL ROAD DISTRICT, OR
BEAR VALLEY SPECIAL ROAD DISTRICT, OR
BEAVER CREEK WATER CONTROL DISTRICT, OR
BEAVER DRAINAGE IMPROVEMENT COMPANY, INC., OR
BEAVER SLOUGH DRAINAGE DISTRICT, OR
BEAVER SPECIAL ROAD DISTRICT, OR
BEAVER WATER DISTRICT, OR
BELLE MER S.I.G.L. TRACTS SPECIAL ROAD DISTRICT, OR
BEND METRO PARK AND RECREATION DISTRICT
BENTON S.W.C.D., OR
BERNDT SUBDIVISION WATER IMPROVEMENT DISTRICT, OR
BEVERLY BEACH WATER DISTRICT, OR
BIENVILLE PARISH FIRE PROTECTION DISTRICT 6, LA
BIG BEND IRRIGATION DISTRICT, OR
BIGGS SERVICE DISTRICT, OR
BLACK BUTTE RANCH DEPARTMENT OF POLICE SERVICES, OR
BLACK BUTTE RANCH R.F.P.D., OR
BLACK MOUNTAIN WATER DISTRICT, OR
BLODGETT-SUMMIT R.F.P.D., OR
BLUE MOUNTAIN HOSPITAL DISTRICT, OR
BLUE MOUNTAIN TRANSLATOR DISTRICT, OR
BLUE RIVER PARK & RECREATION DISTRICT, OR
BLUE RIVER WATER DISTRICT, OR
BLY R.F.P.D., OR
BLY VECTOR CONTROL DISTRICT, OR
BLY WATER AND SANITARY DISTRICT, OR
BOARDMAN CEMETERY MAINTENANCE DISTRICT, OR
BOARDMAN PARK AND RECREATION DISTRICT
BOARDMAN R.F.P.D., OR
BONANZA BIG SPRINGS PARK & RECREATION DISTRICT, OR
BONANZA MEMORIAL PARK CEMETERY DISTRICT, OR
BONANZA R.F.P.D., OR
BONANZA-LANGELL VALLEY VECTOR CONTROL DISTRICT, OR
BORING WATER DISTRICT #24, OR
BOULDER CREEK RETREAT SPECIAL ROAD DISTRICT, OR
BRIDGE R.F.P.D., OR
BROOKS COMMUNITY SERVICE DISTRICT, OR
BROWNSVILLE R.F.P.D., OR
BUELL-RED PRAIRIE WATER DISTRICT, OR
BUNKER HILL R.F.P.D. #1, OR
BUNKER HILL SANITARY DISTRICT, OR
BURLINGTON WATER DISTRICT, OR
BURNT RIVER IRRIGATION DISTRICT, OR
BURNT RIVER S.W.C.D., OR
CALAPOOIA R.F.P.D., OR
CAMAS VALLEY R.F.P.D., OR
CAMELLIA PARK SANITARY DISTRICT, OR
CAMMANN ROAD DISTRICT, OR
CAMP SHERMAN ROAD DISTRICT, OR
CANBY AREA TRANSIT, OR
CANBY R.F.P.D. #62, OR
CANBY UTILITY BOARD, OR
CANNON BEACH R.F.P.D., OR
CANYONVILLE SOUTH UMPQUA FIRE DISTRICT, OR
CAPE FERRELO R.F.P.D., OR
CAPE FOULWEATHER SANITARY DISTRICT, OR
CARLSON PRIMROSE SPECIAL ROAD DISTRICT, OR
CARMEL BEACH WATER DISTRICT, OR
CASCADE VIEW ESTATES TRACT 2, OR
CEDAR CREST SPECIAL ROAD DISTRICT, OR
CEDAR TRAILS SPECIAL ROAD DISTRICT, OR
CEDAR VALLEY - NORTH BANK R.F.P.D., OR
CENTRAL CASCADES FIRE AND EMS, OR
CENTRAL CITY ECONOMIC OPPORTUNITY CORP, LA
CENTRAL LINCOLN P.U.D., OR
CENTRAL OREGON COAST FIRE & RESCUE DISTRICT, OR
CENTRAL OREGON INTERGOVERNMENTAL COUNCIL
CENTRAL OREGON IRRIGATION DISTRICT, OR
CHAPARRAL WATER CONTROL DISTRICT, OR
CHARLESTON FIRE DISTRICT, OR
CHARLESTON SANITARY DISTRICT, OR
CHARLOTTE ANN WATER DISTRICT, OR
CHEHALEM PARK & RECREATION DISTRICT, OR
CHEHALEM PARK AND RECREATION DISTRICT
CHEMULT R.F.P.D., OR
CHENOWITH WATER P.U.D., OR
CHERRIOTS, OR
CHETCO COMMUNITY PUBLIC LIBRARY DISTRICT, OR
CHILOQUIN VECTOR CONTROL DISTRICT, OR
CHILOQUIN-AGENCY LAKE R.F.P.D., OR
CHINOOK DRIVE SPECIAL ROAD DISTRICT, OR
CHR DISTRICT IMPROVEMENT COMPANY, OR
CHRISTMAS VALLEY DOMESTIC WATER DISTRICT, OR
CHRISTMAS VALLEY PARK & RECREATION DISTRICT, OR
CHRISTMAS VALLEY R.F.P.D., OR
CITY OF BOGALUSA SCHOOL BOARD, LA
CLACKAMAS COUNTY FIRE DISTRICT #1, OR
CLACKAMAS COUNTY SERVICE DISTRICT #1, OR
CLACKAMAS COUNTY VECTOR CONTROL DISTRICT, OR
CLACKAMAS RIVER WATER
CLACKAMAS RIVER WATER, OR
CLACKAMAS S.W.C.D., OR
CLATSKANIE DRAINAGE IMPROVEMENT COMPANY, OR

CLATSKANIE LIBRARY DISTRICT, OR
CLATSKANIE P.U.D., OR
CLATSKANIE PARK & RECREATION DISTRICT, OR
CLATSKANIE PEOPLE'S UTILITY DISTRICT
CLATSKANIE R.F.P.D., OR
CLATSOP CARE CENTER HEALTH DISTRICT, OR
CLATSOP COUNTY S.W.C.D., OR
CLATSOP DRAINAGE IMPROVEMENT COMPANY #15, INC., OR
CLEAN WATER SERVICES
CLEAN WATER SERVICES, OR
CLOVERDALE R.F.P.D., OR
CLOVERDALE SANITARY DISTRICT, OR
CLOVERDALE WATER DISTRICT, OR
COALEDO DRAINAGE DISTRICT, OR
COBURG FIRE DISTRICT, OR
COLESTIN RURAL FIRE DISTRICT, OR
COLTON R.F.P.D., OR
COLTON WATER DISTRICT #11, OR
COLUMBIA 911 COMMUNICATIONS DISTRICT, OR
COLUMBIA COUNTY 4-H & EXTENSION SERVICE DISTRICT, OR
COLUMBIA DRAINAGE VECTOR CONTROL, OR
COLUMBIA IMPROVEMENT DISTRICT, OR
COLUMBIA R.F.P.D., OR
COLUMBIA RIVER FIRE & RESCUE, OR
COLUMBIA RIVER PUD, OR
COLUMBIA S.W.C.D., OR
COLUMBIA S.W.C.D., OR
CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION
COOS COUNTY AIRPORT DISTRICT, OR
COOS COUNTY AIRPORT DISTRICT, OR
COOS COUNTY AREA TRANSIT SERVICE DISTRICT, OR
COOS COUNTY AREA TRANSIT SERVICE DISTRICT, OR
COOS FOREST PROTECTIVE ASSOCIATION
COOS S.W.C.D., OR
COQUILLE R.F.P.D., OR
COQUILLE VALLEY HOSPITAL DISTRICT, OR
CORBETT WATER DISTRICT, OR
CORNELIUS R.F.P.D., OR
CORP RANCH ROAD WATER IMPROVEMENT, OR
CORVALLIS R.F.P.D., OR
COUNTRY CLUB ESTATES SPECIAL WATER DISTRICT, OR
COUNTRY CLUB WATER DISTRICT, OR
COUNTRY ESTATES ROAD DISTRICT, OR
COVE CEMETERY MAINTENANCE DISTRICT, OR
COVE ORCHARD SEWER SERVICE DISTRICT, OR
COVE R.F.P.D., OR
CRESCENT R.F.P.D., OR
CRESCENT SANITARY DISTRICT, OR
CRESCENT WATER SUPPLY AND IMPROVEMENT DISTRICT, OR
CROOK COUNTY AGRICULTURE EXTENSION SERVICE DISTRICT, OR
CROOK COUNTY CEMETERY DISTRICT, OR
CROOK COUNTY FIRE AND RESCUE, OR
CROOK COUNTY PARKS & RECREATION DISTRICT, OR
CROOK COUNTY S.W.C.D., OR
CROOK COUNTY VECTOR CONTROL DISTRICT, OR
CROOKED RIVER RANCH R.F.P.D., OR
CROOKED RIVER RANCH SPECIAL ROAD DISTRICT, OR
CRYSTAL SPRINGS WATER DISTRICT, OR
CURRY COUNTY 4-H & EXTENSION SERVICE DISTRICT, OR
CURRY COUNTY PUBLIC TRANSIT SERVICE DISTRICT, OR
CURRY COUNTY S.W.C.D., OR
CURRY HEALTH DISTRICT, OR
CURRY PUBLIC LIBRARY DISTRICT, OR
DALLAS CEMETERY DISTRICT #4, OR
DARLEY DRIVE SPECIAL ROAD DISTRICT, OR
DAVID CROCKETT STEAM FIRE COMPANY #1, LA
DAYS CREEK R.F.P.D., OR
DAYTON FIRE DISTRICT, OR
DEAN MINARD WATER DISTRICT, OR
DEE IRRIGATION DISTRICT, OR
DEER ISLAND DRAINAGE IMPROVEMENT COMPANY, OR
DELL BROGAN CEMETERY MAINTENANCE DISTRICT, OR
DEPOE BAY R.F.P.D., OR
DESCHUTES COUNTY 911 SERVICE DISTRICT, OR
DESCHUTES COUNTY R.F.P.D. #2, OR
DESCHUTES PUBLIC LIBRARY DISTRICT, OR
DESCHUTES S.W.C.D., OR
DESCHUTES VALLEY WATER DISTRICT, OR
DEVILS LAKE WATER IMPROVEMENT DISTRICT, OR
DEXTER R.F.P.D., OR
DEXTER SANITARY DISTRICT, OR
DORA-SITKUM R.F.P.D., OR
DOUGLAS COUNTY FIRE DISTRICT #2, OR
DOUGLAS S.W.C.D., OR
DRAKES CROSSING R.F.P.D., OR
DRRH SPECIAL ROAD DISTRICT #6, OR
DRY GULCH DITCH DISTRICT IMPROVEMENT COMPANY, OR
DUFUR RECREATION DISTRICT, OR
DUMBECK LANE DOMESTIC WATER SUPPLY, OR
DUNDEE R.F.P.D., OR
DURKEE COMMUNITY BUILDING PRESERVATION DISTRICT, OR
EAGLE POINT IRRIGATION DISTRICT, OR
EAGLE VALLEY CEMETERY MAINTENANCE DISTRICT, OR
EAGLE VALLEY R.F.P.D., OR
EAGLE VALLEY S.W.C.D., OR
EAST FORK IRRIGATION DISTRICT, OR
EAST MULTNOMAH S.W.C.D., OR
EAST SALEM SERVICE DISTRICT, OR
EAST UMATILLA CHEMICAL CONTROL DISTRICT, OR
EAST UMATILLA COUNTY AMBULANCE AREA HEALTH DISTRICT, OR
EAST UMATILLA COUNTY R.F.P.D., OR
EAST VALLEY WATER DISTRICT, OR
ELGIN COMMUNITY PARKS & RECREATION DISTRICT, OR
ELGIN HEALTH DISTRICT, OR
ELGIN R.F.P.D., OR
ELKTON ESTATES PHASE II SPECIAL ROAD DISTRICT, OR
ELKTON R.F.P.D., OR
EMERALD P.U.D., OR
ENTERPRISE IRRIGATION DISTRICT, OR
ESTACADA CEMETERY MAINTENANCE DISTRICT, OR
ESTACADA R.F.P.D. #69, OR
EUGENE R.F.P.D. # 1, OR

EUGENE WATER AND ELECTRIC BOARD
EVANS VALLEY FIRE DISTRICT #6, OR
FAIR OAKS R.F.P.D., OR
FAIRVIEW R.F.P.D., OR
FAIRVIEW WATER DISTRICT, OR
FALCON HEIGHTS WATER AND SEWER, OR
FALCON-COVE BEACH WATER DISTRICT, OR
FALL RIVER ESTATES SPECIAL ROAD DISTRICT, OR
FARGO INTERCHANGE SERVICE DISTRICT, OR
FARMERS IRRIGATION DISTRICT, OR
FAT ELK DRAINAGE DISTRICT, OR
FERN RIDGE PUBLIC LIBRARY DISTRICT, OR
FERN VALLEY ESTATES IMPROVEMENT DISTRICT, OR
FOR FAR ROAD DISTRICT, OR
FOREST GROVE R.F.P.D., OR
FOREST VIEW SPECIAL ROAD DISTRICT, OR
FORT ROCK-SILVER LAKE S.W.C.D., OR
FOUR RIVERS VECTOR CONTROL DISTRICT, OR
FOX CEMETERY MAINTENANCE DISTRICT, OR
GARDINER R.F.P.D., OR
GARDINER SANITARY DISTRICT, OR
GARIBALDI R.F.P.D., OR
GASTON R.F.P.D., OR
GATES R.F.P.D., OR
GEARHART R.F.P.D., OR
GILLIAM S.W.C.D., OR
GLENDALE AMBULANCE DISTRICT, OR
GLENDALE R.F.P.D., OR
GLENEDEN BEACH SPECIAL ROAD DISTRICT, OR
GLENEDEN SANITARY DISTRICT, OR
GLENWOOD WATER DISTRICT, OR
GLIDE - IDLEYLD SANITARY DISTRICT, OR
GLIDE R.F.P.D., OR
GOLD BEACH - WEDDERBURN R.F.P.D., OR
GOLD HILL IRRIGATION DISTRICT, OR
GOLDFINCH ROAD DISTRICT, OR
GOSHEN R.F.P.D., OR
GOVERNMENT CAMP ROAD DISTRICT, OR
GOVERNMENT CAMP SANITARY DISTRICT, OR
GRAND PRAIRIE WATER CONTROL DISTRICT, OR
GRAND RONDE SANITARY DISTRICT, OR
GRANT COUNTY TRANSPORTATION DISTRICT, OR
GRANT S.W.C.D., OR
GRANTS PASS IRRIGATION DISTRICT, OR
GREATER BOWEN VALLEY R.F.P.D., OR
GREATER ST. HELENS PARK & RECREATION DISTRICT, OR
GREATER TOLEDO POOL RECREATION DISTRICT, OR
GREEN KNOLLS SPECIAL ROAD DISTRICT, OR
GREEN SANITARY DISTRICT, OR
GREENACRES R.F.P.D., OR
GREENBERRY IRRIGATION DISTRICT, OR
GREENSPRINGS RURAL FIRE DISTRICT, OR
HAHLEN ROAD SPECIAL DISTRICT, OR
HAINES CEMETERY MAINTENANCE DISTRICT, OR
HAINES FIRE PROTECTION DISTRICT, OR
HALSEY-SHEDD R.F.P.D., OR
HAMLET R.F.P.D., OR
HARBOR R.F.P.D., OR
HARBOR SANITARY DISTRICT, OR
HARBOR WATER P.U.D., OR
HARNEY COUNTY HEALTH DISTRICT, OR
HARNEY S.W.C.D., OR
HARPER SOUTH SIDE IRRIGATION DISTRICT, OR
HARRISBURG FIRE AND RESCUE, OR
HAUSER R.F.P.D., OR
HAZELDELL RURAL FIRE DISTRICT, OR
HEBO JOINT WATER-SANITARY AUTHORITY, OR
HECETA WATER P.U.D., OR
HELIX CEMETERY MAINTENANCE DISTRICT #4, OR
HELIX PARK & RECREATION DISTRICT, OR
HELIX R.F.P.D. #7-411, OR
HEPPNER CEMETERY MAINTENANCE DISTRICT, OR
HEPPNER R.F.P.D., OR
HEPPNER WATER CONTROL DISTRICT, OR
HEREFORD COMMUNITY HALL RECREATION DISTRICT, OR
HERMISTON CEMETERY DISTRICT, OR
HERMISTON IRRIGATION DISTRICT, OR
HIDDEN VALLEY MOBILE ESTATES IMPROVEMENT DISTRICT, OR
HIGH DESERT PARK & RECREATION DISTRICT, OR
HIGHLAND SUBDIVISION WATER DISTRICT, OR
HONOLULU INTERNATIONAL AIRPORT
HOOD RIVER COUNTY LIBRARY DISTRICT, OR
HOOD RIVER COUNTY TRANSPORTATION DISTRICT, OR
HOOD RIVER S.W.C.D., OR
HOOD RIVER VALLEY PARKS & RECREATION DISTRICT, OR
HOODLAND FIRE DISTRICT #74
HOODLAND FIRE DISTRICT #74, OR
HORSEFLY IRRIGATION DISTRICT, OR
HOSKINS-KINGS VALLEY R.F.P.D., OR
HOUSING AUTHORITY OF PORTLAND
HUBBARD R.F.P.D., OR
HUDSON BAY DISTRICT IMPROVEMENT COMPANY, OR
I N (KAY) YOUNG DITCH DISTRICT IMPROVEMENT COMPANY, OR
ICE FOUNTAIN WATER DISTRICT, OR
IDAHO POINT SPECIAL ROAD DISTRICT, OR
IDANHA-DETROIT RURAL FIRE PROTECTION DISTRICT, OR
ILLINOIS VALLEY FIRE DISTRICT
ILLINOIS VALLEY R.F.P.D., OR
ILLINOIS VALLEY S.W.C.D., OR
IMBLER R.F.P.D., OR
INTERLACHEN WATER P.U.D., OR
IONE LIBRARY DISTRICT, OR
IONE R.F.P.D. #6-604, OR
IRONSIDE CEMETERY MAINTENANCE DISTRICT, OR
IRONSIDE RURAL ROAD DISTRICT #5, OR
IRRIGON PARK & RECREATION DISTRICT, OR
IRRIGON R.F.P.D., OR
ISLAND CITY AREA SANITATION DISTRICT, OR
ISLAND CITY CEMETERY MAINTENANCE DISTRICT, OR
JACK PINE VILLAGE SPECIAL ROAD DISTRICT, OR
JACKSON COUNTY FIRE DISTRICT #3, OR
JACKSON COUNTY FIRE DISTRICT #4, OR
JACKSON COUNTY FIRE DISTRICT #5, OR
JACKSON COUNTY LIBRARY DISTRICT, OR
JACKSON COUNTY VECTOR CONTROL DISTRICT, OR
JACKSON S.W.C.D., OR
JASPER KNOLLS WATER DISTRICT, OR
JEFFERSON COUNTY EMERGENCY MEDICAL SERVICE DISTRICT, OR
JEFFERSON COUNTY FIRE DISTRICT #1, OR
JEFFERSON COUNTY LIBRARY DISTRICT, OR
JEFFERSON COUNTY S.W.C.D., OR
JEFFERSON PARK & RECREATION DISTRICT, OR

JEFFERSON R.F.P.D., OR
JOB'S DRAINAGE DISTRICT, OR
JOHN DAY WATER DISTRICT, OR
JOHN DAY-CANYON CITY PARKS & RECREATION DISTRICT, OR
JOHN DAY-FERNHILL R.F.P.D. #5-108, OR
JORDAN VALLEY CEMETERY DISTRICT, OR
JORDAN VALLEY IRRIGATION DISTRICT, OR
JOSEPHINE COMMUNITY LIBRARY DISTRICT, OR
JOSEPHINE COUNTY 4-H & EXTENSION SERVICE DISTRICT, OR
JOSEPHINE COUNTY 911 AGENCY, OR
JUNCTION CITY R.F.P.D., OR
JUNCTION CITY WATER CONTROL DISTRICT, OR
JUNIPER BUTTE ROAD DISTRICT, OR
JUNIPER CANYON WATER CONTROL DISTRICT, OR
JUNIPER FLAT DISTRICT IMPROVEMENT COMPANY, OR
JUNIPER FLAT R.F.P.D., OR
JUNO NONPROFIT WATER IMPROVEMENT DISTRICT, OR
KEATING R.F.P.D., OR
KEATING S.W.C.D., OR
KEIZER R.F.P.D., OR
KELLOGG RURAL FIRE DISTRICT, OR
KENO IRRIGATION DISTRICT, OR
KENO PINES ROAD DISTRICT, OR
KENO R.F.P.D., OR
KENT WATER DISTRICT, OR
KERBY WATER DISTRICT, OR
K-GB-LB WATER DISTRICT, OR
KILCHIS WATER DISTRICT, OR
KLAMATH 9-1-1 COMMUNICATIONS DISTRICT, OR
KLAMATH BASIN IMPROVEMENT DISTRICT, OR
KLAMATH COUNTY DRAINAGE SERVICE DISTRICT, OR
KLAMATH COUNTY EXTENSION SERVICE DISTRICT, OR
KLAMATH COUNTY FIRE DISTRICT #1, OR
KLAMATH COUNTY FIRE DISTRICT #3, OR
KLAMATH COUNTY FIRE DISTRICT #4, OR
KLAMATH COUNTY FIRE DISTRICT #5, OR
KLAMATH COUNTY LIBRARY SERVICE DISTRICT, OR
KLAMATH COUNTY PREDATORY ANIMAL CONTROL DISTRICT, OR
KLAMATH DRAINAGE DISTRICT, OR
KLAMATH FALLS FOREST ESTATES SPECIAL ROAD DISTRICT UNIT #2, OR
KLAMATH INTEROPERABILITY RADIO GROUP, OR
KLAMATH IRRIGATION DISTRICT, OR
KLAMATH RIVER ACRES SPECIAL ROAD DISTRICT, OR
KLAMATH S.W.C.D., OR
KLAMATH VECTOR CONTROL DISTRICT, OR
KNAPPA-SVENSEN-BURNSIDE R.F.P.D., OR
LA GRANDE CEMETERY MAINTENANCE DISTRICT, OR
LA GRANDE R.F.P.D., OR
LA PINE PARK & RECREATION DISTRICT, OR
LA PINE R.F.P.D., OR
LABISH VILLAGE SEWAGE & DRAINAGE, OR
LACOMB IRRIGATION DISTRICT, OR
LAFAYETTE AIRPORT COMMISSION, LA
LAFOURCHE PARISH HEALTH UNIT – DHH-OPH REGION 3
LAIDLAW WATER DISTRICT, OR
LAKE CHINOOK FIRE & RESCUE, OR
LAKE COUNTY 4-H & EXTENSION SERVICE DISTRICT, OR
LAKE COUNTY LIBRARY DISTRICT, OR
LAKE CREEK R.F.P.D. - JACKSON, OR
LAKE CREEK R.F.P.D. - LANE COUNTY, OR
LAKE DISTRICT HOSPITAL, OR
LAKE GROVE R.F.P.D. NO. 57, OR
LAKE GROVE WATER DISTRICT, OR
LAKE LABISH WATER CONTROL DISTRICT, OR
LAKE POINT SPECIAL ROAD DISTRICT, OR
LAKESIDE R.F.P.D. #4, OR
LAKESIDE WATER DISTRICT, OR
LAKEVIEW R.F.P.D., OR
LAKEVIEW S.W.C.D., OR
LAMONTAI IMPROVEMENT DISTRICT, OR
LANE FIRE AUTHORITY, OR
LANE LIBRARY DISTRICT, OR
LANE TRANSIT DISTRICT, OR
LANGELL VALLEY IRRIGATION DISTRICT, OR
LANGLOIS PUBLIC LIBRARY, OR
LANGLOIS R.F.P.D., OR
LANGLOIS WATER DISTRICT, OR
LAZY RIVER SPECIAL ROAD DISTRICT, OR
LEBANON AQUATIC DISTRICT, OR
LEBANON R.F.P.D., OR
LEWIS & CLARK R.F.P.D., OR
LINCOLN COUNTY LIBRARY DISTRICT, OR
LINCOLN S.W.C.D., OR
LINN COUNTY EMERGENCY TELEPHONE AGENCY, OR
LINN S.W.C.D., OR
LITTLE MUDDY CREEK WATER CONTROL, OR
LITTLE NESTUCCA DRAINAGE DISTRICT, OR
LITTLE SWITZERLAND SPECIAL ROAD DISTRICT, OR
LONE PINE IRRIGATION DISTRICT, OR
LONG PRAIRIE WATER DISTRICT, OR
LOOKINGGLASS OLALLA WATER CONTROL DISTRICT, OR
LOOKINGGLASS RURAL FIRE DISTRICT, OR
LORANE R.F.P.D., OR
LOST & BOULDER DITCH IMPROVEMENT DISTRICT, OR
LOST CREEK PARK SPECIAL ROAD DISTRICT, OR
LOUISIANA PUBLIC SERVICE COMMISSION, LA
LOUISIANA WATER WORKS
LOWELL R.F.P.D., OR
LOWER MCKAY CREEK R.F.P.D., OR
LOWER MCKAY CREEK WATER CONTROL DISTRICT, OR
LOWER POWDER RIVER IRRIGATION DISTRICT, OR
LOWER SILETZ WATER DISTRICT, OR
LOWER UMPQUA HOSPITAL DISTRICT, OR
LOWER UMPQUA PARK & RECREATION DISTRICT, OR
LOWER VALLEY WATER IMPROVEMENT DISTRICT, OR
LUCE LONG DITCH DISTRICT IMPROVEMENT CO., OR
LUSTED WATER DISTRICT, OR
LYONS R.F.P.D., OR
LYONS-MEHAMA WATER DISTRICT, OR
MADRAS AQUATIC CENTER DISTRICT, OR
MAKAI SPECIAL ROAD DISTRICT, OR
MALHEUR COUNTY S.W.C.D., OR
MALHEUR COUNTY VECTOR CONTROL DISTRICT, OR

MALHEUR DISTRICT IMPROVEMENT COMPANY, OR
MALHEUR DRAINAGE DISTRICT, OR
MALHEUR MEMORIAL HEALTH DISTRICT, OR
MALIN COMMUNITY CEMETERY MAINTENANCE DISTRICT, OR
MALIN COMMUNITY PARK & RECREATION DISTRICT, OR
MALIN IRRIGATION DISTRICT, OR
MALIN R.F.P.D., OR
MAPLETON FIRE DEPARTMENT, OR
MAPLETON WATER DISTRICT, OR
MARCOLA WATER DISTRICT, OR
MARION COUNTY EXTENSION & 4H SERVICE DISTRICT, OR
MARION COUNTY FIRE DISTRICT #1, OR
MARION JACK IMPROVEMENT DISTRICT, OR
MARION S.W.C.D., OR
MARY'S RIVER ESTATES ROAD DISTRICT, OR
MCDONALD FOREST ESTATES SPECIAL ROAD DISTRICT, OR
MCKAY ACRES IMPROVEMENT DISTRICT, OR
MCKAY DAM R.F.P.D. # 7-410, OR
MCKENZIE FIRE & RESCUE, OR
MCKENZIE PALISADES WATER SUPPLY CORPORATION, OR
MCMINNVILLE R.F.P.D., OR
MCNULTY WATER P.U.D., OR
MEADOWS DRAINAGE DISTRICT, OR
MEDFORD IRRIGATION DISTRICT, OR
MEDFORD R.F.P.D. #2, OR
MEDFORD WATER COMMISSION
MEDICAL SPRINGS R.F.P.D., OR
MELHEUR COUNTY JAIL, OR
MERLIN COMMUNITY PARK DISTRICT, OR
MERRILL CEMETERY MAINTENANCE DISTRICT, OR
MERRILL PARK DISTRICT, OR
MERRILL R.F.P.D., OR
METRO REGIONAL GOVERNMENT
METRO REGIONAL PARKS
METROPOLITAN EXPOSITION RECREATION COMMISSION
METROPOLITAN SERVICE DISTRICT (METRO)
MID COUNTY CEMETERY MAINTENANCE DISTRICT, OR
MID-COLUMBIA FIRE AND RESCUE, OR
MIDDLE FORK IRRIGATION DISTRICT, OR
MIDLAND COMMUNITY PARK, OR
MIDLAND DRAINAGE IMPROVEMENT DISTRICT, OR
MILES CROSSING SANITARY SEWER DISTRICT, OR
MILL CITY R.F.P.D. #2-303, OR
MILL FOUR DRAINAGE DISTRICT, OR
MILLICOMA RIVER PARK & RECREATION DISTRICT, OR
MILLINGTON R.F.P.D. #5, OR
MILO VOLUNTEER FIRE DEPARTMENT, OR
MILTON-FREEWATER AMBULANCE SERVICE AREA HEALTH DISTRICT, OR
MILTON-FREEWATER WATER CONTROL DISTRICT, OR
MIROCO SPECIAL ROAD DISTRICT, OR
MIST-BIRKENFELD R.F.P.D., OR
MODOC POINT IRRIGATION DISTRICT, OR
MODOC POINT SANITARY DISTRICT, OR
MOHAWK VALLEY R.F.P.D., OR
MOLALLA AQUATIC DISTRICT, OR
MOLALLA R.F.P.D. #73, OR
MONITOR R.F.P.D., OR
MONROE R.F.P.D., OR
MONUMENT CEMETERY MAINTENANCE DISTRICT, OR
MONUMENT S.W.C.D., OR
MOOREA DRIVE SPECIAL ROAD DISTRICT, OR
MORO R.F.P.D., OR
MORROW COUNTY HEALTH DISTRICT, OR
MORROW COUNTY UNIFIED RECREATION DISTRICT, OR
MORROW S.W.C.D., OR
MOSIER FIRE DISTRICT, OR
MOUNTAIN DRIVE SPECIAL ROAD DISTRICT, OR
MT. ANGEL R.F.P.D., OR
MT. HOOD IRRIGATION DISTRICT, OR
MT. LAKI CEMETERY DISTRICT, OR
MT. VERNON R.F.P.D., OR
MULINO WATER DISTRICT #1, OR
MULTNOMAH COUNTY DRAINAGE DISTRICT #1, OR
MULTNOMAH COUNTY R.F.P.D. #10, OR
MULTNOMAH COUNTY R.F.P.D. #14, OR
MULTNOMAH EDUCATION SERVICE DISTRICT
MYRTLE CREEK R.F.P.D., OR
NEAH-KAH-NIE WATER DISTRICT, OR
NEDONNA R.F.P.D., OR
NEHALEM BAY FIRE AND RESCUE, OR
NEHALEM BAY HEALTH DISTRICT, OR
NEHALEM BAY WASTEWATER AGENCY, OR
NESIKA BEACH-OPHIR WATER DISTRICT, OR
NESKOWIN REGIONAL SANITARY AUTHORITY, OR
NESKOWIN REGIONAL WATER DISTRICT, OR
NESTUCCA R.F.P.D., OR
NETARTS WATER DISTRICT, OR
NETARTS-OCEANSIDE R.F.P.D., OR
NETARTS-OCEANSIDE SANITARY DISTRICT, OR
NEW BRIDGE WATER SUPPLY DISTRICT, OR
NEW CARLTON FIRE DISTRICT, OR
NEW ORLEANS REDEVELOPMENT AUTHORITY, LA
NEW PINE CREEK R.F.P.D., OR
NEWBERG R.F.P.D., OR
NEWBERRY ESTATES SPECIAL ROAD DISTRICT, OR
NEWPORT R.F.P.D., OR
NEWT YOUNG DITCH DISTRICT IMPROVEMENT COMPANY, OR
NORTH ALBANY R.F.P.D., OR
NORTH BAY R.F.P.D. #9, OR
NORTH CLACKAMAS PARKS & RECREATION DISTRICT, OR
NORTH COUNTY RECREATION DISTRICT, OR
NORTH DOUGLAS COUNTY FIRE & EMS, OR
NORTH DOUGLAS PARK & RECREATION DISTRICT, OR
NORTH GILLIAM COUNTY HEALTH DISTRICT, OR
NORTH GILLIAM COUNTY R.F.P.D., OR
NORTH LAKE HEALTH DISTRICT, OR
NORTH LEBANON WATER CONTROL DISTRICT, OR
NORTH LINCOLN FIRE & RESCUE DISTRICT #1, OR
NORTH LINCOLN HEALTH DISTRICT, OR
NORTH MORROW VECTOR CONTROL DISTRICT, OR
NORTH SHERMAN COUNTY R.F.P.D, OR
NORTH UNIT IRRIGATION DISTRICT, OR
NORTHEAST OREGON HOUSING AUTHORITY, OR
NORTHEAST WHEELER COUNTY HEALTH DISTRICT, OR
NORTHERN WASCO COUNTY P.U.D., OR
NORTHERN WASCO COUNTY PARK & RECREATION DISTRICT, OR
NYE DITCH USERS DISTRICT IMPROVEMENT, OR

NYSSA ROAD ASSESSMENT DISTRICT #2, OR
NYSSA RURAL FIRE DISTRICT, OR
NYSSA-ARCADIA DRAINAGE DISTRICT, OR
OAK LODGE WATER SERVICES, OR
OAKLAND R.F.P.D., OR
OAKVILLE COMMUNITY CENTER, OR
OCEANSIDE WATER DISTRICT, OR
OCHOCO IRRIGATION DISTRICT, OR
OCHOCO WEST WATER AND SANITARY AUTHORITY, OR
ODELL SANITARY DISTRICT, OR
OLD OWYHEE DITCH IMPROVEMENT DISTRICT, OR
OLNEY-WALLUSKI FIRE & RESCUE DISTRICT, OR
ONTARIO LIBRARY DISTRICT, OR
ONTARIO R.F.P.D., OR
OPHIR R.F.P.D., OR
OREGON COAST COMMUNITY ACTION
OREGON HOUSING AND COMMUNITY SERVICES
OREGON INTERNATIONAL PORT OF COOS BAY, OR
OREGON LEGISLATIVE ADMINISTRATION
OREGON OUTBACK R.F.P.D., OR
OREGON POINT, OR
OREGON TRAIL LIBRARY DISTRICT, OR
OTTER ROCK WATER DISTRICT, OR
OWW UNIT #2 SANITARY DISTRICT, OR
OWYHEE CEMETERY MAINTENANCE DISTRICT, OR
OWYHEE IRRIGATION DISTRICT, OR
PACIFIC CITY JOINT WATER-SANITARY AUTHORITY, OR
PACIFIC COMMUNITIES HEALTH DISTRICT, OR
PACIFIC RIVIERA #3 SPECIAL ROAD DISTRICT, OR
PALATINE HILL WATER DISTRICT, OR
PALMER CREEK WATER DISTRICT IMPROVEMENT COMPANY, OR
PANORAMIC ACCESS SPECIAL ROAD DISTRICT, OR
PANTHER CREEK ROAD DISTRICT, OR
PANTHER CREEK WATER DISTRICT, OR
PARKDALE R.F.P.D., OR
PARKDALE SANITARY DISTRICT, OR
PENINSULA DRAINAGE DISTRICT #1, OR
PENINSULA DRAINAGE DISTRICT #2, OR
PHILOMATH FIRE AND RESCUE, OR
PILOT ROCK CEMETERY MAINTENANCE DISTRICT #5, OR
PILOT ROCK PARK & RECREATION DISTRICT, OR
PILOT ROCK R.F.P.D., OR
PINE EAGLE HEALTH DISTRICT, OR
PINE FLAT DISTRICT IMPROVEMENT COMPANY, OR
PINE GROVE IRRIGATION DISTRICT, OR
PINE GROVE WATER DISTRICT-KLAMATH FALLS, OR
PINE GROVE WATER DISTRICT-MAUPIN, OR
PINE VALLEY CEMETERY DISTRICT, OR
PINE VALLEY R.F.P.D., OR
PINEWOOD COUNTRY ESTATES SPECIAL ROAD DISTRICT, OR
PIONEER DISTRICT IMPROVEMENT COMPANY, OR
PISTOL RIVER CEMETERY MAINTENANCE DISTRICT, OR
PISTOL RIVER FIRE DISTRICT, OR
PLEASANT HILL R.F.P.D., OR
PLEASANT HOME WATER DISTRICT, OR
POCAHONTAS MINING AND IRRIGATION DISTRICT, OR
POE VALLEY IMPROVEMENT DISTRICT, OR
POE VALLEY PARK & RECREATION DISTRICT, OR
POE VALLEY VECTOR CONTROL DISTRICT, OR
POLK COUNTY FIRE DISTRICT #1, OR
POLK S.W.C.D., OR
POMPADOUR WATER IMPROVEMENT DISTRICT, OR
PONDEROSA PINES EAST SPECIAL ROAD DISTRICT, OR
PORT OF ALSEA, OR
PORT OF ARLINGTON, OR
PORT OF ASTORIA, OR
PORT OF BANDON, OR
PORT OF BRANDON, OR
PORT OF BROOKINGS HARBOR, OR
PORT OF CASCADE LOCKS, OR
PORT OF COQUILLE RIVER, OR
PORT OF GARIBALDI, OR
PORT OF GOLD BEACH, OR
PORT OF HOOD RIVER, OR
PORT OF MORGAN CITY, LA
PORT OF MORROW, OR
PORT OF NEHALEM, OR
PORT OF NEWPORT, OR
PORT OF PORT ORFORD, OR
PORT OF PORTLAND, OR
PORT OF SIUSLAW, OR
PORT OF ST. HELENS, OR
PORT OF THE DALLES, OR
PORT OF TILLAMOOK BAY, OR
PORT OF TOLEDO, OR
PORT OF UMATILLA, OR
PORT OF UMPQUA, OR
PORT ORFORD CEMETERY MAINTENANCE DISTRICT, OR
PORT ORFORD PUBLIC LIBRARY DISTRICT, OR
PORT ORFORD R.F.P.D., OR
PORTLAND DEVELOPMENT COMMISSION, OR
PORTLAND FIRE AND RESCUE
PORTLAND HOUSING CENTER, OR
POWDER R.F.P.D., OR
POWDER RIVER R.F.P.D., OR
POWDER VALLEY WATER CONTROL DISTRICT, OR
POWERS HEALTH DISTRICT, OR
PRAIRIE CEMETERY MAINTENANCE DISTRICT, OR
PRINEVILLE LAKE ACRES SPECIAL ROAD DISTRICT #1, OR
PROSPECT R.F.P.D., OR
QUAIL VALLEY PARK IMPROVEMENT DISTRICT, OR
QUEENER IRRIGATION IMPROVEMENT DISTRICT, OR
RAINBOW WATER DISTRICT, OR
RAINIER CEMETERY DISTRICT, OR
RAINIER DRAINAGE IMPROVEMENT COMPANY, OR
RALEIGH WATER DISTRICT, OR
REDMOND AREA PARK & RECREATION DISTRICT, OR
REDMOND FIRE AND RESCUE, OR
RIDDLE FIRE PROTECTION DISTRICT, OR
RIDGEWOOD DISTRICT IMPROVEMENT COMPANY, OR
RIDGEWOOD ROAD DISTRICT, OR
RIETH SANITARY DISTRICT, OR
RIETH WATER DISTRICT, OR
RIMROCK WEST IMPROVEMENT DISTRICT, OR
RINK CREEK WATER DISTRICT, OR
RIVER BEND ESTATES SPECIAL ROAD DISTRICT, OR
RIVER FOREST ACRES SPECIAL ROAD DISTRICT, OR
RIVER MEADOWS IMPROVEMENT DISTRICT, OR
RIVER PINES ESTATES SPECIAL ROAD DISTRICT, OR
RIVER ROAD PARK & RECREATION DISTRICT, OR

RIVER ROAD WATER DISTRICT, OR
RIVERBEND RIVERBANK WATER IMPROVEMENT DISTRICT, OR
RIVERDALE R.F.P.D. 11-JT, OR
RIVERGROVE WATER DISTRICT, OR
RIVERSIDE MISSION WATER CONTROL DISTRICT, OR
RIVERSIDE R.F.P.D. #7-406, OR
RIVERSIDE WATER DISTRICT, OR
ROBERTS CREEK WATER DISTRICT, OR
ROCK CREEK DISTRICT IMPROVEMENT, OR
ROCK CREEK WATER DISTRICT, OR
ROCKWOOD WATER P.U.D., OR
ROCKY POINT FIRE & EMS, OR
ROGUE RIVER R.F.P.D., OR
ROGUE RIVER VALLEY IRRIGATION DISTRICT, OR
ROGUE VALLEY SEWER SERVICES, OR
ROGUE VALLEY SEWER, OR
ROGUE VALLEY TRANSPORTATION DISTRICT, OR
ROSEBURG URBAN SANITARY AUTHORITY, OR
ROSEWOOD ESTATES ROAD DISTRICT, OR
ROW RIVER VALLEY WATER DISTRICT, OR
RURAL ROAD ASSESSMENT DISTRICT #3, OR
RURAL ROAD ASSESSMENT DISTRICT #4, OR
SAINT LANDRY PARISH TOURIST COMMISSION
SAINT MARY PARISH REC DISTRICT 2
SAINT MARY PARISH REC DISTRICT 3
SAINT TAMMANY FIRE DISTRICT 4, LA
SALEM AREA MASS TRANSIT DISTRICT, OR
SALEM MASS TRANSIT DISTRICT
SALEM SUBURBAN R.F.P.D., OR
SALISHAN SANITARY DISTRICT, OR
SALMON RIVER PARK SPECIAL ROAD DISTRICT, OR
SALMON RIVER PARK WATER IMPROVEMENT DISTRICT, OR
SALMONBERRY TRAIL INTERGOVERNMENTAL AGENCY, OR
SANDPIPER VILLAGE SPECIAL ROAD DISTRICT, OR
SANDY DRAINAGE IMPROVEMENT COMPANY, OR
SANDY R.F.P.D. #72, OR
SANTA CLARA R.F.P.D., OR
SANTA CLARA WATER DISTRICT, OR
SANTIAM WATER CONTROL DISTRICT, OR
SAUVIE ISLAND DRAINAGE IMPROVEMENT COMPANY, OR
SAUVIE ISLAND VOLUNTEER FIRE DISTRICT #30J, OR
SCAPPOOSE DRAINAGE IMPROVEMENT COMPANY, OR
SCAPPOOSE PUBLIC LIBRARY DISTRICT, OR
SCAPPOOSE R.F.P.D., OR
SCIO R.F.P.D., OR
SCOTTSBURG R.F.P.D., OR
SEAL ROCK R.F.P.D., OR
SEAL ROCK WATER DISTRICT, OR
SEWERAGE AND WATER BOARD OF NEW ORLEANS, LA
SHANGRI-LA WATER DISTRICT, OR
SHASTA VIEW IRRIGATION DISTRICT, OR
SHELLEY ROAD CREST ACRES WATER DISTRICT, OR
SHERIDAN FIRE DISTRICT, OR
SHERMAN COUNTY HEALTH DISTRICT, OR
SHERMAN COUNTY S.W.C.D., OR
SHORELINE SANITARY DISTRICT, OR
SILETZ KEYS SANITARY DISTRICT, OR
SILETZ R.F.P.D., OR
SILVER FALLS LIBRARY DISTRICT, OR
SILVER LAKE IRRIGATION DISTRICT, OR
SILVER LAKE R.F.P.D., OR
SILVER SANDS SPECIAL ROAD DISTRICT, OR
SILVERTON R.F.P.D. NO. 2, OR
SISTERS PARKS & RECREATION DISTRICT, OR
SISTERS-CAMP SHERMAN R.F.P.D., OR
SIUSLAW PUBLIC LIBRARY DISTRICT, OR
SIUSLAW S.W.C.D., OR
SIUSLAW VALLEY FIRE AND RESCUE, OR
SIXES R.F.P.D., OR
SKIPANON WATER CONTROL DISTRICT, OR
SKYLINE VIEW DISTRICT IMPROVEMENT COMPANY, OR
SLEEPY HOLLOW WATER DISTRICT, OR
SMITH DITCH DISTRICT IMPROVEMENT COMPANY, OR
SOUTH CLACKAMAS TRANSPORTATION DISTRICT, OR
SOUTH COUNTY HEALTH DISTRICT, OR
SOUTH FORK WATER BOARD, OR
SOUTH GILLIAM COUNTY CEMETERY DISTRICT, OR
SOUTH GILLIAM COUNTY HEALTH DISTRICT, OR
SOUTH GILLIAM COUNTY R.F.P.D. VI-301, OR
SOUTH LAFOURCHE LEVEE DISTRICT, LA
SOUTH LANE COUNTY FIRE & RESCUE, OR
SOUTH SANTIAM RIVER WATER CONTROL DISTRICT, OR
SOUTH SHERMAN FIRE DISTRICT, OR
SOUTH SUBURBAN SANITARY DISTRICT, OR
SOUTH WASCO PARK & RECREATION DISTRICT, OR
SOUTHERN COOS HEALTH DISTRICT, OR
SOUTHERN CURRY CEMETERY MAINTENANCE DISTRICT, OR
SOUTHVIEW IMPROVEMENT DISTRICT, OR
SOUTHWEST LINCOLN COUNTY WATER DISTRICT, OR
SOUTHWESTERN POLK COUNTY R.F.P.D., OR
SOUTHWOOD PARK WATER DISTRICT, OR
SPECIAL ROAD DISTRICT #1, OR
SPECIAL ROAD DISTRICT #8, OR
SPRING RIVER SPECIAL ROAD DISTRICT, OR
SPRINGFIELD UTILITY BOARD, OR
ST. PAUL R.F.P.D., OR
STANFIELD CEMETERY DISTRICT #6, OR
STANFIELD IRRIGATION DISTRICT, OR
STARR CREEK ROAD DISTRICT, OR
STARWOOD SANITARY DISTRICT, OR
STAYTON FIRE DISTRICT, OR
SUBLIMITY FIRE DISTRICT, OR
SUBURBAN EAST SALEM WATER DISTRICT, OR
SUBURBAN LIGHTING DISTRICT, OR
SUCCOR CREEK DISTRICT IMPROVEMENT COMPANY, OR
SUMMER LAKE IRRIGATION DISTRICT, OR
SUMMERVILLE CEMETERY MAINTENANCE DISTRICT, OR
SUMNER R.F.P.D., OR
SUN MOUNTAIN SPECIAL ROAD DISTRICT, OR
SUNDOWN SANITATION DISTRICT, OR
SUNFOREST ESTATES SPECIAL ROAD DISTRICT, OR
SUNNYSIDE IRRIGATION DISTRICT, OR
SUNRISE WATER AUTHORITY, OR
SUNRIVER SERVICE DISTRICT, OR
SUNSET EMPIRE PARK & RECREATION DISTRICT, OR
SUNSET EMPIRE TRANSPORTATION DISTRICT, OR

SURFLAND ROAD DISTRICT, OR
SUTHERLIN VALLEY RECREATION DISTRICT, OR
SUTHERLIN WATER CONTROL DISTRICT, OR
SWALLEY IRRIGATION DISTRICT, OR
SWEET HOME CEMETERY MAINTENANCE DISTRICT, OR
SWEET HOME FIRE & AMBULANCE DISTRICT, OR
SWISSHOME-DEADWOOD R.F.P.D., OR
TABLE ROCK DISTRICT IMPROVEMENT COMPANY, OR
TALENT IRRIGATION DISTRICT, OR
TANGENT R.F.P.D., OR
TENMILE R.F.P.D., OR
TERREBONNE DOMESTIC WATER DISTRICT, OR
THE DALLES IRRIGATION DISTRICT, OR
THOMAS CREEK-WESTSIDE R.F.P.D., OR
THREE RIVERS RANCH ROAD DISTRICT, OR
THREE SISTERS IRRIGATION DISTRICT, OR
TIGARD TUALATIN AQUATIC DISTRICT, OR
TIGARD WATER DISTRICT, OR
TILLAMOOK BAY FLOOD IMPROVEMENT DISTRICT, OR
TILLAMOOK COUNTY EMERGENCY COMMUNICATIONS DISTRICT, OR
TILLAMOOK COUNTY S.W.C.D., OR
TILLAMOOK COUNTY TRANSPORTATION DISTRICT, OR
TILLAMOOK FIRE DISTRICT, OR
TILLAMOOK P.U.D., OR
TILLER R.F.P.D., OR
TOBIN DITCH DISTRICT IMPROVEMENT COMPANY, OR
TOLEDO R.F.P.D., OR
TONE WATER DISTRICT, OR
TOOLEY WATER DISTRICT, OR
TRASK DRAINAGE DISTRICT, OR
TRI CITY R.F.P.D. #4, OR
TRI-CITY WATER & SANITARY AUTHORITY, OR
TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON
TRIMET, OR
TUALATIN HILLS PARK & RECREATION DISTRICT
TUALATIN HILLS PARK & RECREATION DISTRICT, OR
TUALATIN S.W.C.D., OR
TUALATIN VALLEY FIRE & RESCUE
TUALATIN VALLEY FIRE & RESCUE, OR
TUALATIN VALLEY IRRIGATION DISTRICT, OR
TUALATIN VALLEY WATER DISTRICT
TUALATIN VALLEY WATER DISTRICT, OR
TUMALO IRRIGATION DISTRICT, OR
TURNER FIRE DISTRICT, OR
TWIN ROCKS SANITARY DISTRICT, OR
TWO RIVERS NORTH SPECIAL ROAD DISTRICT, OR
TWO RIVERS S.W.C.D., OR
TWO RIVERS SPECIAL ROAD DISTRICT, OR
TYGH VALLEY R.F.P.D., OR
TYGH VALLEY WATER DISTRICT, OR
UMATILLA COUNTY FIRE DISTRICT #1, OR
UMATILLA COUNTY S.W.C.D., OR
UMATILLA COUNTY SPECIAL LIBRARY DISTRICT, OR
UMATILLA HOSPITAL DISTRICT, OR
UMATILLA R.F.P.D. #7-405, OR
UMATILLA-MORROW RADIO AND DATA DISTRICT, OR
UMPQUA S.W.C.D., OR
UNION CEMETERY MAINTENANCE DISTRICT, OR
UNION COUNTY SOLID WASTE DISPOSAL DISTRICT, OR
UNION COUNTY VECTOR CONTROL DISTRICT, OR
UNION GAP SANITARY DISTRICT, OR
UNION GAP WATER DISTRICT, OR
UNION HEALTH DISTRICT, OR
UNION R.F.P.D., OR
UNION S.W.C.D., OR
UNITY COMMUNITY PARK & RECREATION DISTRICT, OR
UPPER CLEVELAND RAPIDS ROAD DISTRICT, OR
UPPER MCKENZIE R.F.P.D., OR
UPPER WILLAMETTE S.W.C.D., OR
VALE OREGON IRRIGATION DISTRICT, OR
VALE RURAL FIRE PROTECTION DISTRICT, OR
VALLEY ACRES SPECIAL ROAD DISTRICT, OR
VALLEY VIEW CEMETERY MAINTENANCE DISTRICT, OR
VALLEY VIEW WATER DISTRICT, OR
VANDEVERT ACRES SPECIAL ROAD DISTRICT, OR
VERNONIA R.F.P.D., OR
VINEYARD MOUNTAIN PARK & RECREATION DISTRICT, OR
VINEYARD MOUNTAIN SPECIAL ROAD DISTRICT, OR
WALLA WALLA RIVER IRRIGATION DISTRICT, OR
WALLOWA COUNTY HEALTH CARE DISTRICT, OR
WALLOWA LAKE COUNTY SERVICE DISTRICT, OR
WALLOWA LAKE IRRIGATION DISTRICT, OR
WALLOWA LAKE R.F.P.D., OR
WALLOWA S.W.C.D., OR
WALLOWA VALLEY IMPROVEMENT DISTRICT #1, OR
WAMIC R.F.P.D., OR
WAMIC WATER & SANITARY AUTHORITY, OR
WARMSPRINGS IRRIGATION DISTRICT, OR
WASCO COUNTY S.W.C.D., OR
WATER ENVIRONMENT SERVICES, OR
WATER WONDERLAND IMPROVEMENT DISTRICT, OR
WATERBURY & ALLEN DITCH IMPROVEMENT DISTRICT, OR
WATSECO-BARVIEW WATER DISTRICT, OR
WAUNA WATER DISTRICT, OR
WEDDERBURN SANITARY DISTRICT, OR
WEST EAGLE VALLEY WATER CONTROL DISTRICT, OR
WEST EXTENSION IRRIGATION DISTRICT, OR
WEST LABISH DRAINAGE & WATER CONTROL IMPROVEMENT DISTRICT, OR
WEST MULTNOMAH S.W.C.D., OR
WEST SIDE R.F.P.D., OR
WEST SLOPE WATER DISTRICT, OR
WEST UMATILLA MOSQUITO CONTROL DISTRICT, OR
WEST VALLEY FIRE DISTRICT, OR
WESTERN HEIGHTS SPECIAL ROAD DISTRICT, OR
WESTERN LANE AMBULANCE DISTRICT, OR
WESTLAND IRRIGATION DISTRICT, OR
WESTON ATHENA MEMORIAL HALL PARK & RECREATION DISTRICT, OR
WESTON CEMETERY DISTRICT #2, OR
WESTPORT FIRE AND RESCUE, OR
WESTRIDGE WATER SUPPLY CORPORATION, OR
WESTWOOD HILLS ROAD DISTRICT, OR
WESTWOOD VILLAGE ROAD DISTRICT, OR

WHEELER S.W.C.D., OR
WHITE RIVER HEALTH DISTRICT, OR
WIARD MEMORIAL PARK DISTRICT, OR
WICKIUP WATER DISTRICT, OR
WILLAKENZIE R.F.P.D., OR
WILLAMALANE PARK & RECREATION DISTRICT, OR
WILLAMALANE PARK AND RECREATION DISTRICT
WILLAMETTE HUMANE SOCIETY
WILLAMETTE RIVER WATER COALITION, OR
WILLIAMS R.F.P.D., OR
WILLOW CREEK PARK DISTRICT, OR
WILLOW DALE WATER DISTRICT, OR
WILSON RIVER WATER DISTRICT, OR
WINCHESTER BAY R.F.P.D., OR
WINCHESTER BAY SANITARY DISTRICT, OR
WINCHUCK R.F.P.D., OR
WINSTON-DILLARD R.F.P.D., OR
WINSTON-DILLARD WATER DISTRICT, OR
WOLF CREEK R.F.P.D., OR
WOOD RIVER DISTRICT IMPROVEMENT COMPANY, OR
WOODBURN R.F.P.D. NO. 6, OR
WOODLAND PARK SPECIAL ROAD DISTRICT, OR
WOODS ROAD DISTRICT, OR
WRIGHT CREEK ROAD WATER IMPROVEMENT DISTRICT, OR
WY'EAST FIRE DISTRICT, OR
YACHATS R.F.P.D., OR
YAMHILL COUNTY TRANSIT AREA, OR
YAMHILL FIRE PROTECTION DISTRICT, OR
YAMHILL SWCD, OR
YONCALLA PARK & RECREATION DISTRICT, OR
YOUNGS RIVER-LEWIS & CLARK WATER DISTRICT, OR
ZUMWALT R.F.P.D., OR

K-12 INCLUDING BUT NOT LIMITED TO:
ACADIA PARISH SCHOOL BOARD
BEAVERTON SCHOOL DISTRICT
BEND-LA PINE SCHOOL DISTRICT
BOGALUSA HIGH SCHOOL, LA
BOSSIER PARISH SCHOOL BOARD
BROOKING HARBOR SCHOOL DISTRICT
CADDO PARISH SCHOOL DISTRICT
CALCASIEU PARISH SCHOOL DISTRICT
CANBY SCHOOL DISTRICT
CANYONVILLE CHRISTIAN ACADEMY
CASCADE SCHOOL DISTRICT
CASCADES ACADEMY OF CENTRAL OREGON
CENTENNIAL SCHOOL DISTRICT
CENTRAL CATHOLIC HIGH SCHOOL
CENTRAL POINT SCHOOL DISTRICT NO.6
CENTRAL SCHOOL DISTRICT 13J
COOS BAY SCHOOL DISTRICT NO.9
CORVALLIS SCHOOL DISTRICT 509J
COUNTY OF YAMHILL SCHOOL DISTRICT 29
CULVER SCHOOL DISTRICT
DALLAS SCHOOL DISTRICT NO.2
DAVID DOUGLAS SCHOOL DISTRICT
DAYTON SCHOOL DISTRICT NO.8
DE LA SALLE N CATHOLIC HS
DESCHUTES COUNTY SCHOOL DISTRICT NO.6
DOUGLAS EDUCATIONAL DISTRICT SERVICE
DUFUR SCHOOL DISTRICT NO.29
EAST BATON ROUGE PARISH SCHOOL DISTRICT
ESTACADA SCHOOL DISTRICT NO.10B
FOREST GROVE SCHOOL DISTRICT
GEORGE MIDDLE SCHOOL
GLADSTONE SCHOOL DISTRICT
GRANTS PASS SCHOOL DISTRICT 7
GREATER ALBANY PUBLIC SCHOOL DISTRICT
GRESHAM BARLOW JOINT SCHOOL DISTRICT
HEAD START OF LANE COUNTY
HIGH DESERT EDUCATION SERVICE DISTRICT
HILLSBORO SCHOOL DISTRICT
HOOD RIVER COUNTY SCHOOL DISTRICT
JACKSON CO SCHOOL DIST NO.9
JEFFERSON COUNTY SCHOOL DISTRICT 509-J
JEFFERSON PARISH SCHOOL DISTRICT
JEFFERSON SCHOOL DISTRICT
JUNCTION CITY SCHOOLS, OR
KLAMATH COUNTY SCHOOL DISTRICT
KLAMATH FALLS CITY SCHOOLS
LAFAYETTE PARISH SCHOOL DISTRICT
LAKE OSWEGO SCHOOL DISTRICT 7J
LANE COUNTY SCHOOL DISTRICT 4J
LINCOLN COUNTY SCHOOL DISTRICT
LINN CO. SCHOOL DIST. 95C
LIVINGSTON PARISH SCHOOL DISTRICT
LOST RIVER JR/SR HIGH SCHOOL
LOWELL SCHOOL DISTRICT NO.71
SALEM-KEIZER PUBLIC SCHOOLS 24J
MARION COUNTY SCHOOL DISTRICT 103
MARIST HIGH SCHOOL, OR
MCMINNVILLE SCHOOL DISTRICT NOAO
MEDFORD SCHOOL DISTRICT 549C
MITCH CHARTER SCHOOL
MONROE SCHOOL DISTRICT NO.1J
MORROW COUNTY SCHOOL DIST, OR
MULTNOMAH EDUCATION SERVICE DISTRICT
MULTISENSORY LEARNING ACADEMY
MYRTLE PINT SCHOOL DISTRICT 41
NEAH-KAH-NIE DISTRICT NO.56
NEWBERG PUBLIC SCHOOLS
NESTUCCA VALLEY SCHOOL DISTRICT NO.101
NOBEL LEARNING COMMUNITIES
NORTH BEND SCHOOL DISTRICT 13
NORTH CLACKAMAS SCHOOL DISTRICT
NORTH DOUGLAS SCHOOL DISTRICT
NORTH WASCO CITY SCHOOL DISTRICT 21
NORTHWEST REGIONAL EDUCATION SERVICE DISTRICT
ONTARIO MIDDLE SCHOOL
OREGON TRAIL SCHOOL DISTRICT NOA6
ORLEANS PARISH SCHOOL DISTRICT
PHOENIX-TALENT SCHOOL DISTRICT NOA
PLEASANT HILL SCHOOL DISTRICT
PORTLAND JEWISH ACADEMY
PORTLAND PUBLIC SCHOOLS
RAPIDES PARISH SCHOOL DISTRICT
REDMOND SCHOOL DISTRICT
REYNOLDS SCHOOL DISTRICT
ROGUE RIVER SCHOOL DISTRICT
ROSEBURG PUBLIC SCHOOLS
SCAPPOOSE SCHOOL DISTRICT 1J
SAINT TAMMANY PARISH SCHOOL BOARD, LA
SEASIDE SCHOOL DISTRICT 10
SHERWOOD SCHOOL DISTRICT 88J
SILVER FALLS SCHOOL DISTRICT 4J
SOUTH LANE SCHOOL DISTRICT 45J3
SOUTHERN OREGON EDUCATION SERVICE DISTRICT
SPRINGFIELD PUBLIC SCHOOLS
SUTHERLIN SCHOOL DISTRICT

SWEET HOME SCHOOL DISTRICT NO.55
TERREBONNE PARISH SCHOOL DISTRICT
THE CATLIN GABEL SCHOOL
TIGARD-TUALATIN SCHOOL DISTRICT
UMATILLA MORROW ESD
WEST LINN WILSONVILLE SCHOOL DISTRICT
WILLAMETTE EDUCATION SERVICE DISTRICT
WOODBURN SCHOOL DISTRICT
YONCALLA SCHOOL DISTRICT
ACADEMY FOR MATH ENGINEERING & SCIENCE (AMES), UT
ALIANZA ACADEMY, UT
ALPINE DISTRICT, UT
AMERICAN LEADERSHIP ACADEMY, UT
AMERICAN PREPARATORY ACADEMY, UT
BAER CANYON HIGH SCHOOL FOR SPORTS & MEDICAL SCIENCES, UT
BEAR RIVER CHARTER SCHOOL, UT
BEAVER SCHOOL DISTRICT, UT
BEEHIVE SCIENCE & TECHNOLOGY ACADEMY (BSTA) , UT
BOX ELDER SCHOOL DISTRICT, UT
CBA CENTER, UT
CACHE SCHOOL DISTRICT, UT
CANYON RIM ACADEMY, UT
CANYONS DISTRICT, UT
CARBON SCHOOL DISTRICT, UT
CHANNING HALL, UT
CHARTER SCHOOL LEWIS ACADEMY, UT
CITY ACADEMY, UT
DAGGETT SCHOOL DISTRICT, UT
DAVINCI ACADEMY, UT
DAVIS DISTRICT, UT
DUAL IMMERSION ACADEMY, UT
DUCHESNE SCHOOL DISTRICT, UT
EARLY LIGHT ACADEMY AT DAYBREAK, UT
EAST HOLLYWOOD HIGH, UT
EDITH BOWEN LABORATORY SCHOOL, UT
EMERSON ALCOTT ACADEMY, UT
EMERY SCHOOL DISTRICT, UT
ENTHEOS ACADEMY, UT
EXCELSIOR ACADEMY, UT
FAST FORWARD HIGH, UT
FREEDOM ACADEMY, UT
GARFIELD SCHOOL DISTRICT, UT
GATEWAY PREPARATORY ACADEMY, UT
GEORGE WASHINGTON ACADEMY, UT
GOOD FOUNDATION ACADEMY, UT
GRAND SCHOOL DISTRICT, UT
GRANITE DISTRICT, UT
GUADALUPE SCHOOL, UT
HAWTHORN ACADEMY, UT
INTECH COLLEGIATE HIGH SCHOOL, UT
IRON SCHOOL DISTRICT, UT
ITINERIS EARLY COLLEGE HIGH, UT
JOHN HANCOCK CHARTER SCHOOL, UT
JORDAN DISTRICT, UT
JUAB SCHOOL DISTRICT, UT
KANE SCHOOL DISTRICT, UT
KARL G MAESER PREPARATORY ACADEMY, UT
LAKEVIEW ACADEMY, UT
LEGACY PREPARATORY ACADEMY, UT
LIBERTY ACADEMY, UT
LINCOLN ACADEMY, UT
LOGAN SCHOOL DISTRICT, UT
MARIA MONTESSORI ACADEMY, UT
MERIT COLLEGE PREPARATORY ACADEMY, UT
MILLARD SCHOOL DISTRICT, UT
MOAB CHARTER SCHOOL, UT
MONTICELLO ACADEMY, UT
MORGAN SCHOOL DISTRICT, UT
MOUNTAINVILLE ACADEMY, UT
MURRAY SCHOOL DISTRICT, UT
NAVIGATOR POINTE ACADEMY, UT
NEBO SCHOOL DISTRICT, UT
NO UT ACAD FOR MATH ENGINEERING & SCIENCE (NUAMES), UT
NOAH WEBSTER ACADEMY, UT
NORTH DAVIS PREPARATORY ACADEMY, UT
NORTH SANPETE SCHOOL DISTRICT, UT
NORTH STAR ACADEMY, UT
NORTH SUMMIT SCHOOL DISTRICT, UT
ODYSSEY CHARTER SCHOOL, UT
OGDEN PREPARATORY ACADEMY, UT
OGDEN SCHOOL DISTRICT, UT
OPEN CLASSROOM, UT
OPEN HIGH SCHOOL OF UTAH, UT
OQUIRRH MOUNTAIN CHARTER SCHOOL, UT
PARADIGM HIGH SCHOOL, UT
PARK CITY SCHOOL DISTRICT, UT
PINNACLE CANYON ACADEMY, UT
PIUTE SCHOOL DISTRICT, UT
PROVIDENCE HALL, UT
PROVO SCHOOL DISTRICT, UT
QUAIL RUN PRIMARY SCHOOL, UT
QUEST ACADEMY, UT
RANCHES ACADEMY, UT
REAGAN ACADEMY, UT
RENAISSANCE ACADEMY, UT
RICH SCHOOL DISTRICT, UT
ROCKWELL CHARTER HIGH SCHOOL, UT
SALT LAKE ARTS ACADEMY, UT
SALT LAKE CENTER FOR SCIENCE EDUCATION, UT
SALT LAKE SCHOOL DISTRICT, UT
SALT LAKE SCHOOL FOR THE PERFORMING ARTS, UT
SAN JUAN SCHOOL DISTRICT, UT
SEVIER SCHOOL DISTRICT, UT
SOLDIER HOLLOW CHARTER SCHOOL, UT
SOUTH SANPETE SCHOOL DISTRICT, UT
SOUTH SUMMIT SCHOOL DISTRICT, UT
SPECTRUM ACADEMY, UT
SUCCESS ACADEMY, UT
SUCCESS SCHOOL, UT
SUMMIT ACADEMY, UT
SUMMIT ACADEMY HIGH SCHOOL, UT
SYRACUSE ARTS ACADEMY, UT
THOMAS EDISON - NORTH, UT
TIMPANOGOS ACADEMY, UT
TINTIC SCHOOL DISTRICT, UT
TOOELE SCHOOL DISTRICT, UT
TUACAHN HIGH SCHOOL FOR THE PERFORMING ARTS, UT
UINTAH RIVER HIGH, UT
UINTAH SCHOOL DISTRICT, UT
UTAH CONNECTIONS ACADEMY, UT
UTAH COUNTY ACADEMY OF SCIENCE, UT
UTAH ELECTRONIC HIGH SCHOOL, UT
UTAH SCHOOLS FOR DEAF & BLIND, UT
UTAH STATE OFFICE OF EDUCATION, UT
UTAH VIRTUAL ACADEMY, UT
VENTURE ACADEMY, UT
VISTA AT ENTRADA SCHOOL OF PERFORMING ARTS AND TECHNOLOGY, UT

WALDEN SCHOOL OF LIBERAL ARTS, UT
WASATCH PEAK ACADEMY, UT
WASATCH SCHOOL DISTRICT, UT
WASHINGTON SCHOOL DISTRICT, UT
WAYNE SCHOOL DISTRICT, UT
WEBER SCHOOL DISTRICT, UT
WEILENMANN SCHOOL OF DISCOVERY, UT

HIGHER EDUCATION
ARGOSY UNIVERSITY
BATON ROUGE COMMUNITY COLLEGE, LA
BIRTHINGWAY COLLEGE OF MIDWIFERY
BLUE MOUNTAIN COMMUNITY COLLEGE
BRIGHAM YOUNG UNIVERSITY - HAWAII
CENTRAL OREGON COMMUNITY COLLEGE
CENTENARY COLLEGE OF LOUISIANA
CHEMEKETA COMMUNITY COLLEGE
CLACKAMAS COMMUNITY COLLEGE
COLLEGE OF THE MARSHALL ISLANDS
COLUMBIA GORGE COMMUNITY COLLEGE
CONCORDIA UNIVERSITY
GEORGE FOX UNIVERSITY
KLAMATH COMMUNITY COLLEGE DISTRICT
LANE COMMUNITY COLLEGE
LEWIS AND CLARK COLLEGE
LINFIELD COLLEGE
LINN-BENTON COMMUNITY COLLEGE
LOUISIANA COLLEGE, LA
LOUISIANA STATE UNIVERSITY
LOUISIANA STATE UNIVERSITY HEALTH SERVICES
MARYLHURST UNIVERSITY
MT. HOOD COMMUNITY COLLEGE
MULTNOMAH BIBLE COLLEGE
NATIONAL COLLEGE OF NATURAL MEDICINE
NORTHWEST CHRISTIAN COLLEGE
OREGON HEALTH AND SCIENCE UNIVERSITY
OREGON INSTITUTE OF TECHNOLOGY
OREGON STATE UNIVERSITY
OREGON UNIVERSITY SYSTEM
PACIFIC UNIVERSITY
PIONEER PACIFIC COLLEGE
PORTLAND COMMUNITY COLLEGE
PORTLAND STATE UNIVERSITY
REED COLLEGE
RESEARCH CORPORATION OF THE UNIVERSITY OF HAWAII
ROGUE COMMUNITY COLLEGE
SOUTHEASTERN LOUISIANA UNIVERSITY
SOUTHERN OREGON UNIVERSITY (OREGON UNIVERSITY SYSTEM)
SOUTHWESTERN OREGON COMMUNITY COLLEGE
TULANE UNIVERSITY
TILLAMOOK BAY COMMUNITY COLLEGE
UMPQUA COMMUNITY COLLEGE
UNIVERSITY OF HAWAII BOARD OF REGENTS
UNIVERSITY OF HAWAII-HONOLULU COMMUNITY COLLEGE
UNIVERSITY OF OREGON-GRADUATE SCHOOL
UNIVERSITY OF PORTLAND
UNIVERSITY OF NEW ORLEANS
WESTERN OREGON UNIVERSITY
WESTERN STATES CHIROPRACTIC COLLEGE
WILLAMETTE UNIVERSITY
XAVIER UNIVERSITY
UTAH SYSTEM OF HIGHER EDUCATION, UT
UNIVERSITY OF UTAH, UT
UTAH STATE UNIVERSITY, UT
WEBER STATE UNIVERSITY, UT
SOUTHERN UTAH UNIVERSITY, UT
SNOW COLLEGE, UT
DIXIE STATE COLLEGE, UT
COLLEGE OF EASTERN UTAH, UT
UTAH VALLEY UNIVERSITY, UT
SALT LAKE COMMUNITY COLLEGE, UT
UTAH COLLEGE OF APPLIED TECHNOLOGY, UT

STATE AGENCIES
ADMIN. SERVICES OFFICE
BOARD OF MEDICAL EXAMINERS
HAWAII CHILD SUPPORT ENFORCEMENT AGENCY
HAWAII DEPARTMENT OF TRANSPORTATION
HAWAII HEALTH SYSTEMS CORPORATION
OFFICE OF MEDICAL ASSISTANCE PROGRAMS
OFFICE OF THE STATE TREASURER
OREGON BOARD OF ARCHITECTS
OREGON CHILD DEVELOPMENT COALITION
OREGON DEPARTMENT OF EDUCATION
OREGON DEPARTMENT OF FORESTRY
OREGON DEPT OF TRANSPORTATION
OREGON DEPT. OF EDUCATION
OREGON LOTTERY
OREGON OFFICE OF ENERGY
OREGON STATE BOARD OF NURSING
OREGON STATE DEPT OF CORRECTIONS
OREGON STATE POLICE
OREGON TOURISM COMMISSION
OREGON TRAVEL INFORMATION COUNCIL
SANTIAM CANYON COMMUNICATION CENTER
SEIU LOCAL 503, OPEU
SOH- JUDICIARY CONTRACTS AND PURCH
STATE DEPARTMENT OF DEFENSE, STATE OF HAWAII
STATE OF HAWAII
STATE OF HAWAII, DEPT. OF EDUCATION
STATE OF LOUISIANA
STATE OF LOUISIANA DEPT. OF EDUCATION
STATE OF LOUISIANA, 26^{TH} JUDICIAL DISTRICT ATTORNEY
STATE OF UTAH