

AGREEMENT

This Agreement, made the 2nd day of September in the year 2026, by and between the HUMBOLDT BAY MUNICIPAL WATER DISTRICT, a California special district (hereinafter "**Owner**") and Alternative Structural Technologies, Inc., a California corporation (hereinafter "**Contractor**"), is for performance of the work on the following work of improvement:

Project Name and Address:	Ranney Collector Well No 4 Water Intrusion Repair 7270 West End Road Arcata CA 95521
Project Owner and Address:	Humboldt Bay Municipal Water District 828 7 th Street Eureka CA 95501
Project Contractor and Address:	Alternative Structural Technologies, Inc. 4191 Business Drive, Suite A Shingle Springs CA 95682

Contractor's business is a Structural Technologies Corporation

Contractor's Federal Tax I.D. # or S.S. # 68-0414995

In consideration of the sums herein agreed to be paid and the terms, conditions and covenants to be performed by the parties, it is agreed as follows:

Contractor agrees to furnish all material, labor, tools, equipment, services, information, documents, permits, and instruction and parts manuals therefor, and to do and complete, in a workmanlike manner and as directed by and to the satisfaction of Owner, all work hereinafter described for that certain project, more particularly described in the Contract Documents (defined in Section 1.1, below) (the "**Work**").

ARTICLE 1 – CONTRACT DOCUMENTS

1.1 CONTRACT DOCUMENTS DEFINITION. The Contract Documents consist of this Agreement and all attachments and exhibits thereto (including **Attachment A** which references the Project Plans, Specifications and Quote and **Attachment B** which are the insurance requirements), and all changes and modifications to the Contract Documents, the latest adopted edition of the Uniform Building Code, Fire Code, and Mechanical Code, the Uniform Standard Specifications for Public Works Construction, and all applicable laws, rules, ordinances, and regulations, California Labor Code, the California Business and Professions Code, the California Public Contract Code, and the Federal Acquisition Regulations. The Contract Documents are complementary and what is required by one shall be as binding as if required by all.

1.2 CONTRACTOR SHALL BIND SUBCONTRACTORS TO SAME EXTENT AS CONTRACTOR. If Contractor contracts with any subcontractor(s) to perform any part of the Work on this Project, Contractor shall be responsible to ensure that each subcontractor shall assume toward Contractor the obligations and responsibilities that Contractor assumes toward Owner insofar as they relate in any way, directly or indirectly, to the Work covered by this Agreement, including, without limitation, any terms and provisions for indemnity, insurance, warranties, and liquidated damages. Contractor shall bind lower tier subcontractors and suppliers to full compliance with all Contract Documents, including all performance obligations and responsibilities that Contractor assumes toward Owner.

ARTICLE 2 – DESCRIPTION OF WORK

2.1 CONTRACTOR'S WORK. Contractor, as an independent contractor, shall furnish all labor and materials, equipment, and services as are necessary to perform all of the Work required by, or reasonably inferable from, the Contract Documents unless specifically excluded herein. Contractor's work shall be completed in a workmanlike manner in strict conformity with the Contract Documents and to the satisfaction of Owner.

2.2 REPRESENTATION THAT CONTRACT DOCUMENTS ARE COMPLETE. Contractor has reviewed the Contract Documents and represents: (1) if the Contractor's work is performed in accordance therewith, it shall comply with all applicable state, county, and municipal laws, codes, and regulations, including but not limited to all building codes; and (2) the Contract Documents are sufficiently complete to permit Contractor to perform its work, in its entirety, on the basis of the Contract Documents and matters reasonably inferable therefrom for the Agreement Price set forth in Article 3 below.

2.3 SUBCONTRACT/ASSIGNMENT. Contractor shall not subcontract, assign, transfer, or sublet any portion of its Work or the proceeds for Contractor's work without the prior written consent of Owner. Any such assignment shall not relieve Contractor from any obligations or liabilities under the Agreement and the assignee shall take the assignment subject to all rights of Contractor herein provided.

Contractor shall be fully responsible to Owner for the acts and omissions of its lower-tier subcontractors and of persons or entities, either directly or indirectly, employed by all of Contractor's lower-tier subcontractors. This Agreement shall not be transferable by Contractor or by operation of law. If requested by Owner, Contractor shall furnish Owner a copy of any proposed contract or agreement between Contractor and any of its lower-tier subcontractors for Owner's review of the terms and conditions thereof, and Contractor shall not execute such agreement until Owner has given written notice of Owner's approval. Failure of Contractor to comply with this Article may be deemed to be a material breach of the Agreement and grounds for Owner to withhold payment therefor. Contractor guarantees that all lower-tier subcontractors will strictly comply with the terms of this Agreement, which shall be expressly incorporated by reference into any contract or agreement with any of Contractor's lower-tier subcontractors.

2.4 DISPUTED WORK. In the event of any dispute between Owner and Contractor over the scope of Contractor's work under the Contract Documents, Contractor will not stop work, but will prosecute the work, including as directed by Owner, diligently to completion, and any such dispute shall be submitted to resolution in accordance with this Agreement.

ARTICLE 3 – PRICE AND SCHEDULE OF VALUES

3.1 CONTRACT PRICE. The sum to be paid by Owner to the Contractor for the performance and completion of the Agreement to the satisfaction of Owner, inclusive of the duties, obligations and responsibilities of the Contractor under this Agreement and the other Contract Documents, and subject to any additions or deductions as authorized under this Agreement shall be as set forth in Contractor's bid schedule attached hereto as **Attachment A ("Contract Agreement Price" or "Price")**. The total project cost shall not exceed the total amount for the entirety of the Work set forth in Attachment A (i.e., \$43,139.75), unless otherwise authorized by Owner in writing prior to Contractor incurring additional expenses.

The Price shall constitute payment in full for all amounts owed to Contractor, including but not limited to the costs incurred for: all labor (including fringe benefit payments), materials, supplies, apparatuses, appliances, equipment, fixtures, tools, implements, facilities, supervision, transportation, utilities, storage, and all other services as and when required for or in connection with the performance of Contractor's work, business licenses, Social Security, employment, sales, use, state, federal, and all other taxes, continuous clean-up, final clean-up, and all insurance required by the Agreement and the other Contract Documents.

3.2 USE OF FUNDS. Contractor agrees and covenants that funds received for the performance of this Agreement shall be used solely for the benefit of persons and firms supplying labor, materials, supplies, tools, machines, equipment, plant or services exclusively for this Project in connection with this Agreement and having the right to assert liens or other claims against the land, improvements or funds involved in this Project or against any bond or other security posted by Contractor or Owner, and said funds shall not in any instance be diverted by Contractor to any other purpose until all obligations arising herein have been fully discharged and all claims arising therefrom have been fully paid.

ARTICLE 4 – PAYMENT

4.1 SUBMISSION OF INVOICES. Upon completion of the Project, Contractor shall submit to Owner for Owner's approval a written request for payment ("Invoice"). The Invoice must be dated and signed by Contractor and include deductions for: (a) all previous payments (if any); (b) all charges for materials and services furnished to Owner by Contractor; (c) back charges by any subcontractor or material supplier; and (d) any other charges and deductions provided for in this Agreement. Contractor shall submit revised Invoices until accepted by Owner.

4.2 WAIVERS AND RELEASES. As a condition precedent to payment by Owner, the Invoice shall be accompanied by a current Conditional Waiver and Release Upon Progress Payment, in the form specified by California Civil Code section 8132, from Contractor and each of Contractor's subcontractors, suppliers, and union trust funds for which payment is sought by the Invoice, and an Unconditional Waiver and Release Upon Progress Payment, in the form specified by California Civil Code section 8134, from Contractor and each of Contractor's subcontractors, suppliers, and any union trust fund for which payment was sought by Contractor and for which Contractor made payment.

4.3 CERTIFIED PAYROLL AND AFFIDAVITS. As an additional condition precedent to payment by Owner, Contractor shall provide, within the time limits specified by the Contract Documents, certified payroll reports certifying that all labor included in the Invoice was paid pursuant to the applicable prevailing wage rates. Contractor shall also submit an affidavit, signed under penalty of perjury, certifying that it has paid for all labor (including fringe benefits), materials and equipment for which Owner has made payment to Contractor.

4.4 PAYMENT NOT ACCEPTANCE. Payment to Contractor shall not constitute or imply acceptance by Owner of any portion of Contractor's work or the full performance thereof.

4.5 PAYMENT IN THE EVENT OF DISPUTE AS TO CONTRACTUAL REQUIREMENTS. In the event a dispute arises between Contractor and/or Owner as to the work to be performed by Contractor, Contractor shall receive payment for its work according to the provisions and requirements of the Agreement as though they are a contended by Contractor and/or Owner. Contractor shall not be entitled to additional compensation for work it contends is outside the scope of the Agreement unless and until the dispute is resolved in its favor.

4.6 REQUIREMENTS FOR PAYMENT. As a condition precedent to Contractor's obligation to make payment, Contractor shall:

(a) Submit an affidavit, under penalty of perjury, that all payroll, payroll taxes, fringe benefits, bills for material and equipment, and other indebtedness connected with Contractor's work for which Owner and/or any surety might in any way be liable,

have been paid or otherwise satisfied.

- (b) Submit conditional and unconditional waivers upon final payment in accordance with Civil Code sections 8136 and 8138;
- (c) Comply with all required close-out procedures to the satisfaction of Owner.

Within ten (10) days of Contractor's receipt of final payment, it shall provide to Owner an Unconditional Waiver and Release Upon Final Payment, in the form required by California Civil Code section 8138.

4.7 FINAL PAYMENT. Provided Contractor is not in default under the Agreement; there is no dispute between Contractor and Owner regarding Contractor's work; Owner and, if necessary, the Project Engineer, have accepted the Project; and Owner has received Contractor's release(s) of all claims related to Contractor's work except for unsettled liens or stop notices, unknown defective work, noncompliance with the Contract Documents, or warranty work, **final payment** shall be made no more than 10 (ten) calendar days after Contractor's compliance with the conditions for payment.

4.1 WITHHOLDING. Owner may withhold any and all payments due Contractor hereunder in order to protect itself from loss on account of Contractor and/or as may reasonably be necessary to protect Owner from loss or damage caused by Contractor, including but not limited to withholdings applicable to Contractor's work arising from grounds enumerated in the Contract Documents, Contractor's failure to perform Contract Work, breach of this Agreement, failure to properly pay employees, subcontractors and/or suppliers, failure to promptly correct rejected, defective or nonconforming Contract Work, and any other matter as to which this Agreement specifically authorizes the withholding by Owner of such payment, including Contractor's failure to comply with the requirements of the Contract Documents.

ARTICLE 5 – CHANGES

5.1 DIRECTED IN WRITING. Owner may order or direct changes, additions, deletions or other revisions to the Work without invalidating the Agreement. No changes, additions, deletions, or other revisions to the Work shall be valid unless made in writing. If Contractor performs additional work or revises the Work without written direction from Owner, Contractor shall not be paid for any additional labor, materials, or supplies furnished and shall be liable for any and all losses, costs, expenses, damages, and liability of any nature whatsoever associated with or in any way arising out of any such change.

5.2 PRICE ADJUSTMENTS. If Owner directs a material change to the Work pursuant to Section 5.1 of this Agreement, the Price stated in Article 3 and the time for Contractor's performance shall be adjusted by appropriate additions or deductions in accordance with the Agreement. Contractor shall supply Owner with all documentation necessary to substantiate the amount of the addition to or deduction from the Price or Contractor's time for performance. Any request of Contractor for an addition to or deduction from the Price, or Contractor's time for performance, must be made to Owner in itemized written form (accompanied by complete documentation substantiating any request(s)) within seven (7) calendar days from the date of receipt by Contractor of notification of change. In the event Owner and Contractor cannot agree on the amount of the addition or deduction, Contractor shall nonetheless perform the work as changed by Owner's written direction. Once Contractor receives Owner's written direction, Contractor is solely responsible for timely performance of the Work as changed by the written direction. Payment for changed Work shall be made in accordance with Article 4.

5.3 NOTICE OF DISPUTED WORK. If a dispute arises between Owner and Contractor about whether a particular work is a change in the Work described in Article 2, Contractor shall timely perform the disputed work and may give written notice of a claim for additional compensation for that work all in accordance with the Contract Documents. Such written notice of claim must be given prior to the performance of the disputed work, and no later than the notice periods set forth in Article 12, below. Contractor's failure to give written notice prior to the performance of the disputed work constitutes an agreement by Contractor that it will not be paid for the disputed work.

ARTICLE 6 – TIME OF COMPLETION AND SCHEDULE

6.1 TIME IS OF ESSENCE. Time limits stated in the Contract Documents are of the essence of the Agreement. By executing the Agreement, Contractor confirms that the contract time is sufficient for performing Contractor's work.

6.2 CONTRACT TIME. Contract Time for completion of all work is October 31, 2026, unless extended by written agreement of the parties hereto or in the event the Contract Time is extended pursuant to Section 6.4 below.

6.3 SCHEDULE OF WORK. Contractor shall have the right to decide the time and order in which the various portions of the Work are to be performed, including the relative priority of the work of subcontractors. Contractor shall prepare the Schedule of Work and shall revise the Schedule of Work as work progresses.

6.4 CONTRACTOR'S RESPONSIBILITIES. Contractor shall commence work on the Project within five (5) calendar days of receiving a written Notice to Proceed from the Owner. Contractor shall complete the work in the time set forth in Section 6.2, subject to permissible delays. Permissible delays are acts of God, war, war defense, riots, litigation, acts of the Owner or the Owner's agent, employee, or independent contractor, stormy weather, strikes, walkouts, acts of public utilities, public bodies or inspectors, extra work, failure of Owner to make payments promptly, the time involved in preparing and negotiating agreed Change Orders if such delays actually impact the critical path of the Project so as to cause delay, failure of Owner to authorize Change Orders in a timely fashion so as to delay schedule, failure of Architect to provide requested information or clarification in a manner which does not delay the schedule or other contingencies unforeseeable by or beyond the reasonable control of the Contractor. In the event of delay, Contractor shall notify Owner in writing within three (3) days of

the occurrence and cause of delay and the estimated number of days the delay Contractor anticipates will occur. Contractor's failure to notify Owner shall result in no extension of time for completion. If at any time Owner wishes the Project to be completed in less time than set forth above, with any permissible delays, such acceleration in work shall be deemed a request for extra work, as forth herein and accomplished only pursuant to written Change Order.

6.5 CONTRACTOR'S REMEDIES FOR DELAY. If the progress of Contractor's work is delayed without the fault or responsibility of Contractor, then the time for Contractor's work shall be extended by change order to the extent obtained by from Owner and the Schedule of Work shall be revised accordingly. On projects subject to the Public Contract Code, the provisions of section 7102 shall apply; however, Owner and Contractor expressly contemplate and acknowledge that if the Work is enjoined by a court of law or a bid protest of any type or nature is asserted which delays the performance of the Work, Owner shall have no liability or responsibility to Contractor for any delay damages.

ARTICLE 7 – TERMINATION OR SUSPENSION

7.1 TERMINATION FOR CONVENIENCE. Notwithstanding any other provision of the Agreement, Owner reserves the right to terminate this Agreement for Owner's convenience, without cause. If so terminated, Contractor shall be entitled to the following costs and no others: cost of Work actually completed in conformity with the requirements of the Agreement and Contract Documents; other necessary costs actually incurred by Contractor; plus fifteen percent (15%) of such costs as overhead and profit.

7.2 SUSPENSION OR TERMINATION BY OWNER. Should the Owner suspend or terminate any aspect of the work, then Contractor shall immediately discontinue work upon written order from Owner. Contractor shall proceed with such work when ordered to do so by Owner.

ARTICLE 8 – PERFORMANCE OF CONTRACTOR

8.1 AUTHORIZED REPRESENTATIVE. Contractor shall designate one or more persons satisfactory to Owner and with authority to act for Contractor as Contractor's representative on-site and off-site. Such authorized representative(s) shall be the only person(s) to whom Owner shall issue instructions, orders or directions, except in an emergency. Should Owner find Contractor's representative(s) to be unsatisfactory, Contractor shall promptly replace the representative(s).

8.2 NON-DISCRIMINATION. Contractor shall not discriminate in hiring, firing, promotion, or training against any person on account of age, race, religion, national origin, disability, sexual orientation, gender, or gender identity.

8.3 SAFETY. In the performance of this Agreement, Contractor shall comply with all applicable federal, state and local statutory and regulatory requirements including, but not limited to California Department of Industrial Relations (Cal/OSHA) regulations; and the U.S. Department of Transportation Omnibus Transportation Employee Testing Act, related to their scope of work and operations. In case of conflict in regulations, the most stringent shall apply. Contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. Safety precautions shall include but shall not be limited to: adequate life protection and lifesaving equipment; adequate illumination; instructions in accident prevention for all employees, such as the use of machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, fall protection, and other safety devices; equipment and wearing apparel as are necessary or lawfully required to prevent accidents, injuries, or illnesses (including but not limited to exposure to the Coccidioides fungus and Valley Fever); and adequate facilities for the proper inspection and maintenance of all safety measures

Contractor must obtain all applicable Division of Occupational Safety and Health (CAL-OSHA) permit(s) and others required by California Labor Code and California Government Code, prior to the initiation of any practices, work, method, operation, or process related to the work covered in the contract. Permits required by governmental authorities will be obtained at Contractor's expense.

It is a condition of this Agreement, and shall be made a condition of each subcontract which Contractor enters into pursuant to this Agreement, that the Contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under Cal/OSHA safety and health standards.

Contractor shall be responsible for the safeguarding of all utilities. At least two working days before beginning work, Contractor shall call the Underground Service Alert (USA) in order to determine the location of sub-structures. Contractor shall immediately notify Owner if Contractor disturbs, disconnects, or damages any utility.

In accordance with Section 6705 of the California Labor Code, Contractor shall submit to Owner specific plans to show details of provisions for worker protection from caving ground during excavations of trenches of five feet or more in depth. The excavation/trench safety plan shall be submitted to and accepted by Owner prior to starting excavation. The trench safety plan shall have details showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground. If such a plan varies from the shoring system standards established by the Construction Safety Orders of the California Department of Industrial Relations (Cal/OSHA), the plan shall be prepared by a California registered civil or structural engineer. As part of the plan, a note shall be included stating that the registered civil or structural engineer certifies that the plan complies with the Cal/OSHA Construction Safety Orders, or that the registered civil or structural engineer certifies that the plan is not less effective than the shoring, bracing, sloping or other provisions of the Safety Orders. In no event shall Contractor use a shoring, sloping, or protective system less effective than that required by said Construction Safety Orders. Submission of this plan in no way relieves Contractor of the requirement to maintain safety

in all areas. If excavations or trench work requiring a Cal/OSHA permit are to be undertaken, Contractor shall submit its permit with the excavation/trench work safety plan to Owner before work begins.

8.4 SHOP DRAWINGS, SAMPLES, AND AS-BUILT DRAWINGS. By such date as directed by Owner, Contractor shall prepare and submit to Owner all shop drawings, samples, specimens, or other data necessary to completely describe Contractor's work and as required by the Contract Documents. Approval of such shop drawings, samples, specimens, or other data by Owner or the Architect shall not relieve Contractor of its responsibility to perform Contractor's work in strict accordance with the Contract Documents or of its responsibility for the proper matching and fitting of Contractor's work with contiguous work. Contractor shall also furnish all information required for the coordination of Contractor's work with the work of other trades. Contractor shall be responsible for preparing all as-built drawings pertaining to Contractor's work and as required by the Contract Documents.

8.5 SUBSTITUTIONS. Requests for substitution of material will be allowed only if permitted by the Contract Documents. Requests for substitution must be submitted in the format specified by the Contract Documents and submitted to Owner within a reasonable timeframe as directed by Owner or they may be returned without review. Architect may charge to review requests for substitution, whether approved or rejected, and all such costs shall be the responsibility of Contractor.

8.6 PLAN INCONSISTENCY AND CONTIGUOUS WORK. Contractor shall bring any uncertainty or inconsistency in or between the plans, specifications, or other Contract Documents to the attention of Owner in writing and within three (3) working days of Contractor's discovery thereof. Contractor shall not proceed with any Work affected by the uncertainty or inconsistency until directed to do so by Owner. Owner shall resolve the uncertainty or inconsistency and Contractor shall perform the work as directed by Owner.

Before proceeding with its work, Contractor shall inspect the correctness of contiguous or adjacent work installed by others. The failure to detect or report discrepancies will preclude recovery by Contractor of any resulting cost, expense, or damage.

8.7 PROTECTION OF THE WORK. Contractor shall take all necessary precautions to properly protect Contractor's work and the work of others from damage caused by Contractor's operations. Should Contractor cause damage to the Work or property of Owner or others, Contractor shall promptly remedy such damage to the satisfaction of Owner.

8.8 INSPECTION. When portions of Contractor's work are ready for inspection, Contractor shall notify Owner in writing in sufficient time to allow Owner to notify the inspecting authorities that the work is ready for inspection. Failure to properly and timely make notice of, or receive, required inspections is not cause for delay. Contractor shall at all times furnish Owner with adequate facilities for inspecting materials at the site or at any place where materials under this Agreement may be in the course of preparation, processing, manufacture or treatment.

8.9 CLEAN-UP. Contractor shall follow Owner's clean-up directions and shall at all times keep the Project free from debris and unsafe working conditions arising from Contractor's work. At the end of each day, Contractor shall consolidate its debris at a place designated by Owner and shall remove its debris from the job site immediately upon completion of each phase of Contractor's work or as directed by Owner. Contractor is to leave all areas where it is performing work in broom clean condition at the end of each work day. If work areas are not kept neat and safe at all times, Owner will back-charge Contractor as needed at an hourly rate of \$100.00 plus dump fees and all other necessary costs incurred by Owner.

8.10 LABOR RELATIONS. Contractor shall take reasonable steps to prevent the occurrence of any strike, slowdown, or other labor difficulty or dispute arising out of the presence of Contractor at the job site or from any other activities of Contractor.

Contractor acknowledges the provisions of the California Labor Code regarding the payment of prevailing wages to workers employed on public works projects. In compliance with the requirements of Labor Code section 1775(b)(1), Contractor acknowledges the existence and content of Part 7, Chapter 1 of the California Labor Code, including, without limitation, Labor Code sections 1771, 1775, 1777.5, 1813, and 1815, as incorporated herein by reference, and has read and understands the provisions of these code sections.

Contractor shall work with and respond to all requests for information related to labor code compliance by Owner and/or Owner's labor compliance specialist.

8.11 WARRANTY. Contractor warrants all materials, equipment, and workmanship provided under this Agreement for a period of one (1) year from completion of the entire Project or such longer period as may be provided in the Contract Documents. Contractor warrants to Owner that materials and equipment furnished under the Agreement will be of good quality and new unless otherwise required or permitted by the Contract Documents, that Contractor's work will be free from defects not inherent in the quality required or permitted, and that Contractor's work will conform to the requirements of the Contract Documents. Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment, if requested by Owner to do so.

Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. Contractor shall promptly amend and make good any defective materials, equipment, or workmanship to the approval and acceptance of Owner.

8.12 PROJECT TO BE KEPT FREE OF LIENS. Contractor shall promptly pay all subcontractors, suppliers, and others from payment received by Owner. In the event a subcontractor, material supplier, labor union trust fund, or other person or entity that supplied labor, material, or equipment to Contractor shall record/file a mechanic's lien or stop notice, Contractor shall, within two (2) working days of receipt of notice of said lien or stop notice, supply evidence to the satisfaction of Owner that the monies owing to the claimant have been paid or post a bond indemnifying Owner and the Project from such claim or lien.

8.13 ROYALTIES, PATENTS AND COPYRIGHTS. Contractor shall pay all royalties and license fees, shall defend suits

or claims for infringement of copyrights and patent rights, and shall hold Owner harmless from loss on account thereof. Contractor shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer is required by the Contract Documents or where the copyright violations are contained in the Contract Documents.

8.14 DISCOVERY OF HAZARDOUS WASTE OR UNUSUAL CONDITIONS. Contractor shall promptly, and before the following conditions are disturbed, notify Owner, in writing, of any of the following conditions: (a) material that Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (b) subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids; (c) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

Upon notice to Owner, Owner shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the Agreement.

In the event that a dispute arises between Owner and Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in Contractor's cost of, or time required for, performance of any part of the work, Contractor shall not be excused from any scheduled completion date provided for by the Agreement, but shall proceed with all work to be performed under the Agreement. Contractor shall retain any and all rights provided either by Agreement or by law which pertain to the resolution of disputes and protests.

ARTICLE 9 – RECOURSE OF OWNER

9.1 NOTICE TO CURE. If, in the opinion of Owner, Contractor is in breach of any provision of this Agreement, including but not limited to failing: to supply timely and enough properly skilled workers or proper or sufficient materials or equipment or adequate supervision; to provide and obtain approved submittals timely; to maintain the Schedule of Work; to make prompt payment to its workers, sub-subcontractors, suppliers, taxing authorities, or union trust funds; to obey laws, ordinances, or orders of any public authority having jurisdiction; to clean up its debris; to perform work as directed by Owner; or to perform any obligation under this Agreement, Contractor shall commence and continue satisfactory correction of such breach with diligence and promptness within forty-eight (48) hours after service of written notice to Contractor or Contractor's authorized representative specifying the particulars of such breach.

9.2 FAILURE TO CURE BREACH. If Contractor fails to cure a breach of this Agreement within forty-eight (48) hours of service of a Notice to Cure, Owner may, without prejudice to any other rights or remedies, and at its sole option, do any or all of the following:

- (a) Furnish such labor, material, equipment, and other facilities, either directly or through one or more subcontractors, as Owner deems necessary to complete or correct Contractor's work, or any part thereof;
- (b) Withhold payment of any monies due Contractor under this Agreement pending corrective action to the extent required by and to the satisfaction of Owner; or
- (c) Terminate the Agreement and complete the work itself or cause the work to be completed by others. Owner may take immediate possession of all of Contractor's material, supplies, tools, appliances, and equipment at the job site and use same without payment of rent or other compensation to Contractor or liability to Contractor for any damages arising from said use unless resulting from gross negligence or willful destruction by Owner or others working on its behalf. Any unused material, supplies, tools, appliances, and equipment remaining after Contractor's work is completed will be returned to Contractor.

9.3 CONTRACTOR RATES TO COMPLETE OR CORRECT WORK. If Owner elects to use its own labor forces to complete or correct Contractor's work, Contractor and, if applicable, Contractor's surety, agree to pay Owner for all labor costs, costs for Owner's owned equipment, direct costs for materials, field and home office overhead, and ten percent (10%) profit on all costs.

9.4 BANKRUPTCY. Upon a receiver for Contractor being appointed, upon Contractor making an assignment for the benefit of creditors, upon Contractor seeking protection under the Bankruptcy Code, upon Contractor's creditors placing Contractor into an involuntary bankruptcy, or upon Contractor committing any other act evidencing insolvency, Owner may, to the extent legally permissible, terminate this Agreement upon giving three (3) working days' written notice, by certified mail, to Contractor and its surety, if any. If an order for relief pertaining to Contractor is entered under the Bankruptcy Code, Owner may terminate this Agreement by giving forty-eight (48) hours' written notice, by certified mail, to Contractor, its trustee, and its surety, if any, unless Contractor, the surety, or the trustee: promptly cures all defaults; provides adequate assurances of future performance; compensates Owner for all damages, costs, and expenses resulting from such default(s); and assumes the obligations of Contractor within the statutory time limits.

If Contractor is not performing in accordance with the Schedule of Work at the time an order for relief is entered, Owner may avail itself of any and all such remedies that are reasonably necessary to maintain the Schedule of Work while waiting for the Contractor, its trustee, or its surety, if any, to accept or reject the Agreement and to provide adequate assurances of future performance.

ARTICLE 10 – INSURANCE AND BONDS

10.1 GENERAL INSURANCE REQUIREMENTS. Contractor shall not commence any work until it obtains all insurance required to be obtained by Contractor under this Agreement as set forth in **Attachment B** hereto and incorporated herein by this reference.

10.2 PERFORMANCE AND MATERIALS AND LABOR PAYMENT BONDS. Within 5 calendar days of a request by Owner, and at Contractor's expense, Contractor shall furnish Performance and Materials and Labor Payment Bonds in an amount equal to 100 percent of the Price set forth in Article 3 herein, from a surety and in a form satisfactory to and/or provided by Owner. Said bonds shall include a provision that the party prevailing in any legal or equitable action or arbitration proceeding relating to the bonds shall be entitled to receive from the other parties to said action or proceeding all court costs, actual attorneys' fees, and all other expenses, including but not limited to expert witness fees, incurred in such action or proceedings and the preparation thereof.

ARTICLE 11 – INDEMNIFICATION

11.1 DEFINITIONS. For purposes of this Article 11, "Indemnified Parties" shall mean: Owner, and all of their officials, representatives, employees, consultants, agents, successors, and assigns, and any lender of Owner with an interest in the Project.

For purposes of this Article 11, "Claim" and "Claims" shall include claims, demands, obligations, damages, actions, causes of action, suits, demands for arbitration, losses, judgments, fines, penalties, liabilities, costs, and expenses (including, without limitation, fees, costs, and other disbursements to attorneys, experts, consultants, or other professionals) of every kind or nature whatsoever that may arise from or in any manner relate (directly or indirectly) to any work performed or services provided under this Agreement or Contractor's presence or activities conducted at the Project.

11.2 EXTENT OF INDEMNIFICATION. To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the Indemnified Parties, and each of them, from and against any and all Claims including, without limitation, Claims for bodily injury, death, or damage to or destruction of property; defects in workmanship or materials; and design defects, if the design originated with Contractor, that may arise from or in any manner relate, directly or indirectly, to any work performed or services provided under this Agreement or Contractor's presence or activities conducted on the Project, including without limitation the negligent and/or willful acts, errors, and/or omissions of Contractor, its principals, officers, agents, employees, vendors, suppliers, consultants, sub-consultants, sub-subcontractors, anyone employed by any of them or for whose acts they may be liable, or any or all of them, regardless of any passive negligence or strict liability of an Indemnified Party. Contractor, however, shall not be obligated under this Agreement to indemnify, including the cost to defend, the Indemnified Parties for Claims arising out of, pertaining to, or relating to the active negligence or willful misconduct of the Indemnified Parties, or for defects in design furnished by such persons, or to the extent the Claims do not arise out of the scope of work of the Contractor pursuant to this Agreement.

11.3 DUTY TO DEFEND. Contractor shall, at its sole cost and expense and with legal counsel approved by Owner (which approval shall not be unreasonably withheld), defend the Indemnified Parties, and each of them, from any Claims for which Contractor is bound to indemnify the Indemnified Parties pursuant to Article 11.2. The duty to defend is wholly independent of and separate from the duty to indemnify, and such duty to defend exists regardless of any ultimate liability of Contractor. Such defense obligation shall arise immediately upon presentation of a Claim and written notice of such Claim being provided to Contractor.

11.4 PAYMENT NOT CONDITION PRECEDENT. Payment to Contractor by any Indemnified Party, or any Indemnified Party's payment of a Claim, shall not be a condition precedent to Contractor's obligations to indemnify and defend the Indemnified Parties, and each of them.

11.5 SURVIVAL OF OBLIGATION. Contractor's obligations to indemnify and defend shall survive the expiration or earlier termination of this Contract Agreement until such time as any action against the Indemnified Parties, or any of them, for such matter indemnified hereunder is fully and finally barred by the applicable statute(s) of limitations.

11.6 LIABILITY NOT EXCLUSIVE. Contractor's liability for indemnification and defense hereunder is in addition to any liability Contractor may have to Owner for Contractor's breach of any of the provisions of this Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit Contractor's indemnification obligation or other liability under the Agreement.

11.7 NO LIMITATION UPON LIABILITY. In connection with any and all claims against Owner, Owner's representatives, Contractor (including its affiliates, parents, and subsidiaries) or other contractors or subcontractors, or any of their agents or employees, by any employee of Contractor, anyone directly or indirectly employed by Contractor, or anyone for whose acts Contractor may be liable, the indemnification provisions in Article 11.2 shall not be limited in any way by any limitation on the amount or types of damages, compensation or benefits payable by or on behalf of Contractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 12 – CLAIMS

12.1 CLAIMS RELATING TO OWNER. Contractor agrees to make all claims for which Owner may be liable in the manner provided in the Contract Documents. Notice of such claims shall be given by Contractor to Owner within one (1) week prior to Contractor commencing work under this Agreement or the event for which such claim is to be made, or within three (3) calendar days of Contractor's first knowledge of the event, whichever shall first occur. Contractor's failure to provide notice of a claim as required by this Article 12.1 shall constitute a waiver of the claim. Contractor shall be bound by the determination of the Owner or, in the event of a legal action or proceeding, or arbitration, by the outcome of same and shall be entitled only to its proportionate share of any net recovery.

12.2 CLAIMS NOT RELATING TO OWNER. Contractor shall give Owner written notice of all claims not included in Article 12.1, within the same time frames noted in Article 12.1. Should Contractor fail to provide notice within the time required, such claims shall be deemed waived.

12.3 CONTRACTOR TO CONTINUE WORK. Contractor shall carry on the Work and maintain satisfactory progress while any claim or claims brought pursuant to Article 12.1 or 12.2, or any other dispute(s), is/are being resolved, and Owner shall continue to make payments in accordance with the Agreement.

ARTICLE 13 – DISPUTE RESOLUTION

13.1 CONSENSUAL RESOLUTION EFFORTS. Upon notification of a dispute, Owner and Contractor shall meet to informally resolve such dispute.

13.2 DISPUTES BETWEEN OWNER AND SUBCONTRACTOR. Any controversy or claim arising out of or related to this Agreement involving an amount less than \$5,000 (or the maximum limit of the court) must be heard in the Small Claims Division of the Superior Court in Humboldt County. If any question arises regarding or relating to Contractor's work or regarding the rights and obligations of Owner and/or Contractor under the Contract Documents, then, as a condition precedent to litigation as described below, Owner and Contractor shall first mediate any dispute. With respect to claims and disputes between Owner and Contractor arising out of or relating to obligations under this Agreement, and which do not involve issues of fact or law the following shall apply: Each claim or dispute between the parties arising out of or relating to this Agreement shall be litigated in a California State Court of competent jurisdiction, or if jurisdiction over the action cannot be obtained in California State Court, in a Federal Court of competent jurisdiction situated in the State of California.

13.3 CONSOLIDATED ARBITRATION PROCEEDINGS. The claims and disputes of Owner, Contractor, and other subcontractors involving a common question of fact or law shall be heard by the same arbitrator(s) or court in a single proceeding.

13.4 NO LIMITATION OF RIGHTS OR REMEDIES. This Article shall not be deemed a limitation of any rights or remedies that Contractor may have under any federal or state mechanics lien, stop notice, or labor and material payment bond unless such rights have been expressly waived by Contractor.

ARTICLE 14 – MISCELLANEOUS PROVISIONS

14.1 LAW AND EFFECT. This Agreement shall be governed by the laws of the State of California.

14.2 SEVERABILITY AND WAIVER. The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision.

14.3 ATTORNEYS' FEES. In the event either party shall prevail in any legal or equitable action or arbitration proceeding to enforce any term(s) of this Agreement, such party shall be entitled to receive from the other party all court costs, actual attorneys' fees, and all other expenses, including but not limited to expert witness fees, incurred in such litigation and the preparation thereof.

14.4 ENTIRE AGREEMENT. This Agreement is solely for the benefit of the signatories hereto and represents the entire and integrated agreement between the parties hereto, and supersedes all prior proposals, bids, correspondence, negotiations, representations, or agreements, whether written or oral.

14.5 TERMS. The terms of this Agreement are contractual and the result of negotiations between the parties hereto. Accordingly, any rule of construction of contracts, including without limitation California Civil Code section 1654, that ambiguities are to be construed against the drafting party, shall not be employed in the interpretation of this Agreement.

14.6 WRITTEN NOTICE. Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to Contractor's authorized representative, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

14.7 RIGHTS AND REMEDIES. Duties and obligations imposed by the Contract Documents, and rights and remedies available thereunder, shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by applicable law.

14.8 AUDIT. Owner shall have the right to inspect the work, or any portion thereof, at any time, in accordance with this Agreement and the Contract Documents. Any right of the Owner to inspect or audit the books, accounting records, files and documents of Contractor in accordance with the Contract Documents is incorporated herein as though set forth in full.

Owner shall have the right to inspect, audit and copy at any time, upon reasonable notice, during normal business hours, Contractor's books, documents and accounting records, including but not limited to bid worksheets, bids, subcontractor bids, and proposals, estimates, cost accounting data, accounting records, payroll records, time sheets, cancelled checks, profit and loss statements, balance sheets, Project correspondence, including but not limited to all correspondence between Contractor and Contractor's sureties and subcontractors/vendors, Project files, scheduling information, and other records of the Contractor and all subcontractors directly or indirectly pertinent to the work, original as well as change and claimed extra work, to verify and evaluate the accuracy of cost and pricing data submitted with any change order, prospective or completed, or any claim for which additional compensation has been requested or notice of potential claim has been tendered. Contractor shall keep complete and accurate records concerning Contractor's work and the Project at its principal office for at least four (4) years after the work is completed and accepted. This provision shall be included in all of Contractor's subcontracts and purchase orders, and all of Contractor's subcontractors and suppliers, of any tier, shall be bound by this provision.

14.9 ASSIGNMENT OF CARTWRIGHT ACT CLAIMS. If applicable, Contractor offers and agrees to assign to Owner all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the

Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Agreement. This assignment shall be made and become effective at the time Owner tenders final payment to the Contractor, without further acknowledgment by the parties.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS STATE LICENSE BOARD WHICH HAS JURISDICTION TO INVESTIGATE COMPLAINTS AGAINST CONTRACTORS IF A COMPLAINT REGARDING A PATENT ACT OR OMISSION IS FILED WITHIN FOUR YEARS OF THE DATE OF THE ALLEGED VIOLATION. A COMPLAINT REGARDING A LATENT ACT OR OMISSION PERTAINING TO STRUCTURAL DEFECTS MUST BE FILED WITHIN TEN YEARS OF THE DATE OF THE ALLEGED VIOLATION. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS STATE LICENSE BOARD, POST OFFICE BOX 26000, SACRAMENTO, CALIFORNIA 95826.

IN WITNESS WHEREOF, the parties have executed this Agreement in duplicate as of the day and year first above written. This Agreement may be executed in counterparts, each of which shall be deemed to be an original, and copies of which transmitted via facsimile or pdf shall be deemed originals, and which together shall be deemed one and the same agreement. To the extent the signed version of this Agreement is digitally stored, electronic copies have the same force and effect as the original.

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

ALTERNATIVE STRUCTURAL TECHNOLOGIES, INC.

By: _____

By: _____

Name of Signee: _____

Name of Signee: _____

Title: _____

Title: _____

Date: _____

Date: _____

Contractor's License No. _____

Attachment A

[PLANS, SPECIFICATIONS AND QUOTE FOLLOW THIS PAGE]



September 1, 2026

Michiko Mares, P.E.
General Manager
Humboldt Bay Municipal Water District
828 Seventh Street
Eureka, CA 95501

**RE: Ranney Collector Well No. 4 - Water Intrusion Repair
Scope of Work and Cost Proposal**

Dear Ms. Mares:

1. Basis of Proposal

This proposal has been prepared based upon the conditions and recommendations described in the Voss Laboratories, Inc. report entitled "Ranney Collector Well #4 – Concrete Inspection and Testing," dated July 28, 2026, together with information provided by HBMWD and subsequent project coordination. The Voss report identifies active water intrusion primarily at the construction joint near Elevation 21.5 feet and recommends polyurethane injection repair at the Elevation 21.5-foot and 10.3-foot construction joints.

The Voss Laboratories report is referenced as the engineering basis for the repair areas and general repair intent. AST has not independently verified all dimensions, subsurface conditions, flow paths, or conclusions contained in that report. Actual repair quantities, injection locations, access requirements, material consumption, pressures, port spacing, and sequencing may be adjusted by AST based on conditions encountered during performance of the work.

Project logistics and Owner-furnished support assumptions are also based on HBMWD correspondence dated August 2026, including written confirmation of crane support, confined-space attendant/topside support, rescue equipment, environmental notification, and the anticipated September repair window.

2. Proposed Repair Material

The proposed injection material is ChemCo Systems CCS™ Grout 2 Flex SLV, or an approved equivalent meeting the project requirements. The material is a super-low-viscosity, flexible, hydrophobic, water-reactive polyurethane grout intended for water infiltration/exfiltration, construction joints, cracks, pipe penetrations, fine voids, and water-holding structures.

**4191 Business Drive, Suite A
Shingle Springs, CA 95682**

**Phone (530) 676-6550
Fax (530) 676-6099**

- Material shall carry current NSF/ANSI/CAN 61 certification for potable-water contact for the intended application.
- Product Technical Data Sheet, Safety Data Sheet, and applicable NSF certification documentation will be submitted for review prior to installation.
- Material preparation, catalyst ratio, cup testing, storage, handling, and installation will generally follow the manufacturer's current published instructions, subject to field conditions and AST means and methods.
- Final material selection remains subject to submittal review and field suitability.

Installation Reference Specification. AST will use the ChemCo Systems guide specification, 'Concrete Crack Injection with Water-Reactive Polyurethane Grout,' as a technical installation reference for surface preparation, injector/packer development, flushing, material preparation, cup testing, injection sequencing, pressure control, and cleanup. The guide specification informs the work but does not supersede AST's field judgment or control of means and methods. Generic bidding, measurement, payment, warranty, or six-month 'successfully sealed' provisions contained in the manufacturer's guide specification are expressly excluded from this proposal unless separately incorporated in writing.

3. Scope of Work

- Coordinate work activities, access, shutdown/dewatering requirements, site logistics, and work sequencing with HBMWD.
- Perform pre-work visual review of the identified construction joints and accessible leakage areas from the developed work platform.
- Prepare concrete and joint surfaces as necessary to permit identification of active leakage paths and effective installation of the injection system.
- Develop injection ports/packers at locations selected by AST based on observed joint geometry, leakage behavior, concrete condition, access, and manufacturer recommendations.
- Where appropriate, AST may install injection points directly into or immediately adjacent to the leaking construction joint rather than relying exclusively on angled drilling. Final port configuration and drilling method will be determined in the field.
- Flush and condition injection points and defects as required; install temporary surface containment/seals where necessary to control resin escape during injection.
- Perform polyurethane injection systematically through the designated repair areas, including repeated injection passes as necessary to achieve material travel, rejection, and practical reduction of active leakage.

- Address localized leakage associated with the joint and areas adjacent to the pipe penetration as field conditions warrant and within the authorized scope.
- Remove injection hardware as appropriate, patch injection locations where required, remove cured excess material, and leave the immediate work area in a clean condition.
- Observe repaired areas following cure and document the general post-injection leakage condition.

4. Water Intrusion – Performance Objective and Limitation

AST will use appropriate industry-standard means, methods, equipment, and approved materials in an effort to substantially reduce water intrusion, with the objective of achieving complete stoppage where field conditions permit. However, complete elimination of leakage is not guaranteed.

The structure contains multiple construction joints and does not incorporate an effective waterstop at the subject joints. Water migration within or behind the concrete, changes in hydrostatic conditions, concealed discontinuities, inaccessible flow paths, and redistribution of water to adjacent or lower joints can affect final performance. Injection work may therefore reduce or stop leakage at one location while revealing or increasing leakage at another location. AST's obligation is to perform the authorized repair work in a professional manner using suitable materials and accepted injection practices; the proposal does not constitute a warranty or guarantee of a watertight structure or permanent elimination of all water intrusion.

5. Surface Contamination / Owner Preparation

Existing grease, oil, residue, and other contaminants have been reported and observed on portions of the interior concrete surfaces. Effective surface preparation is required before repair work can proceed.

Current proposal basis: HBMWD will remove gross grease, oil, and operational residue from the principal work areas before AST begins injection preparation. This allocation will be confirmed during final field coordination. AST will perform localized final preparation directly associated with the injection operation.

If HBMWD requests AST to perform substantial degreasing, washing, waste collection, or disposal beyond normal localized repair preparation, that work will be treated as additional T&M work unless specifically included in the final commercial proposal.

6. Mobilization

- Pre-mobilization coordination, project planning, and confirmation of site readiness.
- Mobilize AST personnel, injection equipment, pumps, hoses, packers/ports, repair materials, normal hand tools, repair-specific PPE, and access/platform components within AST's scope.
- HBMWD will provide the contracted crane used to transfer AST equipment between shore and Collector Well No. 4.

- Coordinate crane picks, staging, electrical power, potable water, dewatering/water-level control, and facility operating restrictions with HBMWD.

Commercial basis: Fixed mobilization amount - TBD.

7. Confined Space Entry and Access Development

Collector Well No. 4 will be treated as a permit-required confined-space work area. AST will perform its work in accordance with its applicable confined-space procedures and will retain responsibility for the safety of its employees, repair-specific means and methods, work-positioning, and acceptance of the entry conditions before entry.

Based on HBMWD's written project correspondence, the proposal assumes the District will furnish the following confined-space and topside support:

- Hole watch / attendant.
- Topside support personnel.
- Two confined-space rescue tripods: one equipped with winch/SRL and one equipped with a winch.
- On-site contracted crane, available for equipment handling and capable of supporting emergency extraction from the well when incorporated into the accepted rescue plan.
- Coordination of District operations required to maintain the work area in an acceptable condition for entry and repair activities.

AST will verify that the combined entry and rescue arrangement is acceptable before beginning work. If additional dedicated rescue personnel, specialized retrieval equipment, ventilation, continuous monitoring equipment, or third-party rescue services are required beyond the District support described above, those requirements will be addressed by mutual agreement and treated as additional work unless specifically included in the final price.

AST will develop and mechanically anchor the temporary internal work platform/access system required to safely reach the repair elevations. Final anchorage locations and platform configuration will be determined in the field after verification of actual conditions. The proposal includes reasonable time for drilling, anchoring, erection, adjustment, and removal of the temporary work platform.

Commercial basis: Confined-space/access development - TBD in final pricing.

7A. AST Confined-Space Qualifications and Limitations

AST's scope is limited to providing qualified confined-space entrants for the internal repair work and performing atmospheric monitoring within the work space as required for AST's entry and continued occupancy.

- AST will provide qualified and authorized entrants for the internal repair work.

- AST will perform internal atmospheric testing/air monitoring associated with its entry operations.
- AST will provide repair-specific PPE, tools, equipment, and means and methods required for its employees to perform the authorized work.
- AST will not furnish the confined-space hole watch/attendant.
- AST will not furnish a third-party confined-space rescue service or dedicated external rescue team.
- HBMWD will provide the hole watch/attendant, topside support, rescue tripods/retrieval equipment, and crane support described in District correspondence.
- Entry will not proceed unless AST determines that the combined entry, retrieval, communication, and rescue arrangement is acceptable for its personnel and the conditions present at the time of entry.

Qualification: Any requirement imposed after award for AST to furnish a dedicated hole watch, third-party rescue service, additional rescue personnel, or materially different confined-space support than identified above will constitute a change in scope and will be subject to additional compensation and schedule adjustment.

8. Injection Repair Work – Commercial Basis

Hands-on repair operations are proposed on a Time-and-Materials basis because the quantity of grout, number of injection points, required injection passes, leakage response, concealed flow paths, and duration of repair activities cannot be reliably determined before the work is opened and performed.

- Labor: T&M at agreed project rates – TBD.
- Equipment: T&M / scheduled equipment rates – TBD.
- Materials: actual quantities used, billed in accordance with the final proposal – TBD.
- Consumables and disposal: as defined in final pricing schedule.
- Work outside the identified repair areas or resulting from newly discovered conditions will require authorization before proceeding, except where immediate action is necessary for safety or protection of the work.

9. Demobilization

- Remove AST repair equipment, unused materials, temporary repair-specific containment, and work debris.
- Perform normal cleanup of AST work areas.
- Coordinate removal of access/work-platform equipment within AST's assigned scope.
- Provide closeout documentation applicable to the performed repair work.

Commercial basis: Fixed demobilization amount – TBD.

9A. HBMWD-Furnished Support and Project Conditions

- Contracted crane for transport of equipment between shore and the collector.
- Confined-space hole watch/attendant and topside support.
- Two rescue tripods and associated winch/SRL equipment as described in District correspondence.
- District operational coordination for dewatering/water-level control and access.
- Environmental-agency notification associated with the repair work.
- Work condition allowing no entry into the surrounding water and no discharge to the water.
- Gross cleaning/removal of grease, oil, and operational residue from the principal work areas before AST's injection preparation.

10. Assumptions and Exclusions

- Structural engineering, redesign, or modification of the existing well structure is excluded unless specifically added.
- Removal/replacement of major concrete sections, pipe, manifold components, or existing annular repair mortar is excluded unless specifically authorized.
- Major cleaning/degreasing of District operational contamination is excluded from the base repair scope unless added by amendment or T&M authorization.
- Dewatering, pumping operations, water-level control, and facility operation by HBMWD are assumed unless otherwise defined in the final responsibility matrix.
- Hazardous-material abatement, environmental remediation, and disposal of pre-existing contaminated materials are excluded unless specifically included.
- Repair quantities are not guaranteed. Final quantities will be based on field conditions and authorized work performed.

11. Schedule

HBMWD has identified September 14-16, 2026, as the targeted repair window, with District dive operations tentatively scheduled for September 17-18 to support return of the collector to service. The commercial plan is presently based on approximately two days of repair exposure plus mobilization/demobilization activities, subject to final field verification, Board authorization, site readiness, and material/submittal approval.

HBMWD has stated that it will notify the applicable environmental regulatory agencies and that no additional project permit is anticipated, provided the work does not enter the water and no discharge to the water occurs. AST's work plan and housekeeping will be arranged around those stated constraints.

12. Reference / Submittal Documents

- Voss Laboratories, Inc. – Ranney Collector Well #4, Concrete Inspection and Testing, dated July 28, 2026.
- ChemCo Systems – CCS™ Grout 2 Flex SLV Technical Data Sheet, Revision 20260323.JD.
- ChemCo Systems – CCS Grout 2 Flex Safety Data Sheet, Revision Date August 12, 2024.
- ChemCo Systems – Concrete Crack Injection with Water-Reactive Polyurethane Grout, Guide Specification.
- NSF/ANSI/CAN 61 certification documentation – to be appended upon receipt/selection of final approved product.

13. Pricing and Commercial Terms

The work is proposed on a combined Fixed Firm Price and Time-and-Materials basis. Mobilization and demobilization will be performed for fixed firm amounts. Temporary access/platform development, confined-space entry activities within AST's scope, and polyurethane injection repair operations will be performed on a Time-and-Materials basis using AST's applicable 2026 utility labor and equipment rates, together with actual project materials, lodging/per diem, and other authorized project costs.

Commercial Item	Pricing Basis	Amount
Mobilization	Fixed Firm Price	\$3,500.00
Estimated T&M Field Work	AST 2026 Utility Rates / NTE	\$37,668.40
Demobilization	Fixed Firm Price	\$1,971.35
TOTAL ESTIMATED PROJECT COST / NTE	Combined Basis	\$43,139.75

13.1 Estimate Basis

The above amount is an estimate based upon the presently understood scope, anticipated field conditions, approximately two days of active field repair operations, and AST's applicable 2026 utility labor and equipment rates. The estimated T&M amount includes anticipated labor, equipment, repair materials and consumables, lodging/per diem, planning/submittal effort, and other project-specific costs currently expected for the work. Actual T&M charges will be based upon authorized costs actually incurred. AST will not exceed the authorized Not-to-Exceed amount without prior authorization from HBMWD, except for work reasonably necessary to place the site in a safe condition.

13.2 Payment Basis

Payment will be based upon the pricing structure stated above. Fixed Firm Price items will be invoiced as performed, and T&M work will be billed from actual authorized labor, equipment, materials, lodging/per diem, and other project costs incurred. Payment is not contingent upon complete elimination of water intrusion.

13.3 Repair Performance Objective and Limitation

AST will make every reasonable and professionally appropriate effort, using suitable materials, experienced personnel, and accepted tradecraft, to substantially reduce the observed water intrusion, with the objective of complete stoppage at the treated locations where field conditions permit. Due to concealed flow paths, multiple construction joints, the absence of an effective waterstop, unknown voids, hydraulic connectivity, and the potential for water to migrate or reappear at adjacent locations, complete or permanent stoppage of all water intrusion cannot be guaranteed.

AST's obligation is to perform the authorized repair work in a professional and workmanlike manner consistent with the approved material system, applicable manufacturer guidance, and accepted injection practices. No warranty is made that Collector Well No. 4 will become completely watertight or remain free from future leakage.

13.4 Qualifications, Exclusions, and Changed Conditions

- Unknown or concealed voids, discontinuities, leakage paths, deteriorated mortar, inaccessible defects, or conditions differing materially from the available project information may require additional labor, materials, equipment, or time.
- Grout consumption is dependent upon concealed void volume, defect geometry, and hydraulic connectivity and cannot be accurately predetermined.
- Additional injection passes, new injection locations, newly expressed leakage, or extension of work beyond the initially identified repair areas will be treated as additional T&M work subject to available authorization.
- Substantial degreasing or removal of pre-existing oil, grease, operational residue, or contaminated material beyond normal localized injection preparation is excluded unless specifically authorized.
- AST will not provide a third-party rescue service or confined-space hole watch/attendant. HBMWD will provide the Owner-furnished confined-space support described elsewhere in this proposal.
- Any material change in Owner-furnished support, access conditions, rescue requirements, or facility operations may result in additional T&M cost and/or schedule adjustment.

13.5 Owner-Furnished Support and Delays

Pricing and duration are based on HBMWD furnishing the crane, hole watch/attendant, topside support, rescue tripods/retrieval equipment, operational coordination, water-level control/dewatering, and other Owner-furnished support identified in this proposal. Standby time, remobilization, extended

duration, or additional cost resulting from unavailable Owner-furnished support, access restrictions, facility conditions, operational delays, or interruptions outside AST's control will be billed on a T&M basis.

13.6 Estimated Duration

The estimate is based upon approximately two days of active field repair operations plus mobilization and demobilization. Actual duration may vary based upon leakage response, grout travel and consumption, required injection passes, access conditions, District operations, confined-space constraints, and other conditions encountered during execution.

13.7 Payment Terms

Fixed Firm Price items will be invoiced upon performance of the applicable mobilization or demobilization activity. T&M work will be invoiced from actual documented project costs. Payment terms: 2% 10 Days- Net 30 days.

Proposal Authorized By:



Glenn P. Evans
President

END OF SECTION

CCS™ GROUT 2 FLEX SLV

SUPER LOW VISCOSITY FLEXIBLE HYDROPHOBIC POLYURETHANE FOAM

TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY



CCS™ Grout 2 Flex SLV is a super low viscosity, two-part flexible hydrophobic water activated polyurethane grout sealant designed for moving cracks, cold joints, joints in concrete and shotcrete, and water infiltration and exfiltration. The product has volume expansion capabilities up to 1000% and once cured does not shrink or swell. CCS™ Grout 2 Flex SLV is used for fine and hairline cracks and voids where constant movement is inherent and waterproofing is required.

FEATURES

- Flexible to accommodate movement
- Cures in dry or wet conditions
- Resists high & low pH
- Up to 1000% volume expansion
- Certified to NSF/ANSI 61 for potable water contact

APPLICATIONS

- Eliminating water infiltration and exfiltration
- Sealing construction joints, cracks, pipe penetrations
- Fine and hairline cracks, small annular spaces, dynamic joints
- Dams, tunnels, sewers, manholes, water holding structures, above and below grade structures

MIXING

The volume mixing ratio is 10 parts CCS™ Grout 2 Flex SLV (Part A) to 1 part CCS™ Grout Catalyst (Part B)

Before application, pre-mix Part A and Part B. All equipment used to mix the material must be dry to prevent the CCS™ Grout 2 Flex from reacting. Mix Part A and Part B together in a ratio of 10A:1B and place it in the injection pump bucket.

The CCS™ Grout 2 Flex SLV mixture will only activate when it comes in contact with water. However, the surface may harden which will protect the resin in bucket. Leave "skin" in place until all resin has been used or until mixing a new resin batch.

INSTALLING

This product requires a single-component pump with a variable PSI setting. Before adding the product to the pump hopper or line, ensure it is thoroughly mixed with the Part B. Verify mix with cup test.

Be mindful of the temperature and humidity in the environment, as these factors affect the pot life of the premixed batch. You can adjust the accelerator ratio based on the application. The recommended catalyst mix ratios range from 3% to 10%, though higher percentages (up to 20%) may be used in cases of increased water flow or low

TECHNICAL DATA

PHYSICAL PROPERTIES		TEST METHOD	TEST METHOD
Mix Ratio A:B			10:1 by volume
Color	Part A Part B		Pale Yellow Clear
Density	Part A Part B	ASTM D1638	9.04 lbs/gal 8.39 lbs/gal
Viscosity	Part A Part B	ASTM D1638	250 cps 50 cps
Flash Point	Part A Part B	ASTM D93	200 °F (93 °C) 200 °F (93 °C)
Induction Time at 73 °F			40 s
Gel Time at 73 °F			90 s
Expansion			800-1000%
Tensile Strength (under 4V confinement)		ASTM D3574	100 psi
Elongation at Break (under 4V confinement)		ASTM D3574	250%
Shrinkage			<2%
Corrosiveness			Non-Corrosive

temperatures. Increasing the catalyst percentage accelerates the reaction time, enhances expansion, and reduces product density. For optimal waterproofing, a higher density is preferred. For soil stabilization, you may use catalyst ratios of 3% to 5%. Only mix as much material as will be pumped within a reasonable time frame. Note: High temperatures and humidity will reduce gel time.

CLEAN UP

Excess mixed product is best removed from the work area and tools before it hardens. The use of rags and solvents such as acetone or heavy-duty detergents facilitates cleaning. Cured product may be removed from tools by soaking in an epoxy stripper.

Do not use MEK (methyl ethyl ketone) for cleaning.



PACKAGING & COLORS

- Standard package sizes of Part A + Part B are 5 1/2 gallons: one 5-gallon pail of Part A (CCS™ Grout 2 Flex SLV) and one 1/2-gallon can of Part B (CCS™ Grout Catalyst).
- Standard mix color is pale yellow.

SHELF LIFE

One year minimum in unopened, original containers when stored between 60°F and 95°F (15-35°C) in a dry place away from sunlight. Remixing of components may be required upon long-term

SAFETY

This bulletin does not accompany the product when sold. For hazard warnings, safe handling and first aid instructions, CAREFULLY READ THE SAFETY DATA SHEETS AND CONTAINER WARNING LABELS.

Wear protective clothing, gloves and eye protection (goggles, safety glasses and/or face shield). Keep out of the reach of children. In case of ingestion, seek medical help immediately. May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed. If eye contact occurs, flush immediately with clean water and seek medical help as needed. Dispose of waste material in accordance with federal, state and local requirements. As per GHS, category 1 is the greatest level of hazard within each class.

Warning: This product contains Isocyanates and Solvent. CCS™ Grout Catalyst is considered Dangerous Goods. DOT classification: Corrosive Liquid, N.O.S. (Contains Amine), Class 8, UN 1760, PG III. Do not use MEK (methyl ethyl ketone) for cleaning of any kind.

TECHNICAL SUPPORT

Additional information and technical assistance are also available from a ChemCo Systems Technical Representative at 650-261-3790 or sales@chemcosystems.com.



Limited Warranty: Please read all information in the General Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. These products are for professional use only and preferably applied by professionals who have prior experience with ChemCo Systems materials or have undergone training in application of ChemCo Systems materials. Published technical data and instructions are subject to change without notice. Contact your local ChemCo Systems representative or visit our website for current technical data, instructions, and project specific recommendations.

ChemCo Systems warrants its products to be free of manufacturing defects and that they will meet ChemCo Systems' current published physical properties. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by ChemCo Systems of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. ChemCo Systems shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. ChemCo Systems shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. ChemCo Systems reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

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SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID : 10-15482
Product Name : CCS Grout 2 Flex
Revision Date : Aug 12, 2024 **Date Printed :** Aug 12, 2024
Version: 1.0 **Supersedes Date :** N.A.
Manufacturer's Name : ChemCo Systems - A Division of American Polymers Corporation
Address : 14722 Spring Ave, Santa Fe Springs, CA, US, 90670-5108
Emergency Phone : Chemtrec:800-4249300 (account: CCN1217) OR International:703-5273887 (account:CCN1217)
Information Phone : 562-8028834
Fax : (562) 921-7363
Product/Recommended Uses: For Further Information, Refer to the Product Technical Data Sheet.

SECTION 2) HAZARDS IDENTIFICATION

Classification:

Specific Target Organ Toxicity - Repeated Exposure - Category 2
Skin Irritation - Category 3
Respiratory Sensitizer (Solid/Liquid) - Category 1
Skin Sensitizer - Category 1
Carcinogenicity - Category 2
Reproductive Toxicity - Category 1B
Eye Irritation - Category 2
Acute aquatic toxicity - Category 1

Pictograms:**Signal Word:**

Danger

Hazardous Statements - Health:

H351 - Suspected of causing cancer.
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child (state specific effect if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H316 - Causes mild skin irritation
H317 - May cause an allergic skin reaction
H373 - May cause damage to organs through prolonged or repeated exposure.

Hazardous Statements - Environmental:

H400 - Very toxic to aquatic life

Precautionary Statements - General:

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.

P103 - Read label before use.

Precautionary Statements - Prevention:

P273 - Avoid release to the environment.
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash thoroughly after handling.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

Precautionary Statements - Response:

P391 - Collect spillage.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or a rash occurs: Get medical advice/attention.
P321 - Specific treatment (see section 4 on this SDS).
P362 + P364 - Take off contaminated clothing. And wash it before reuse.
P314 - Get Medical advice/attention if you feel unwell.

Precautionary Statements - Storage:

P405 - Store locked up.

Precautionary Statements - Disposal:

P501 - Dispose of contents/ container to an approved waste disposal plant.

SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Chemical Name	% by Weight
0068092-58-0	POLYURETHANE PREPOLYMER	39% - 72%
0000084-74-2	DIBUTYL PHTHALATE	18% - 32%
0009016-87-9	POLYMETHYLENE POLYPHENYL ISOCYANATE	5% - 9%
0000101-68-8	4,4'-METHYLENEDIPHENYL DIISOCYANATE	4% - 7%
0026447-40-5	MDI (MONOMER)	1.1% - 1.9%

SECTION 4) FIRST-AID MEASURES

Inhalation:

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

Eliminate all ignition sources if safe to do so.

Skin Contact:

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before re-use or discard.

IF exposed or concerned: Get medical advice/attention.

Eye Contact:

Avoid direct contact. Wear chemical protective gloves, if necessary.

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

Ingestion:

Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. If vomiting occurs naturally, lie on your side, in the recovery position.

IF exposed or concerned: Get medical advice/attention.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Dry chemical, foam, carbon dioxide is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

Unsuitable Extinguishing Media:

If water is used, use very large quantities of cold water. The reaction between water and hot isocyanate may be vigorous.

Specific Hazards in Case of Fire:

Vapors may accumulate and travel to ignition sources distant from the handling site; flash fire can occur.

Excessive pressure or temperature may cause explosive rupture of containers.

Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may rupture them.

Fire-fighting Procedures:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions:

Wear NIOSH approved self-contained breathing apparatus in positive pressure mode with full-face piece. Boots, gloves (neoprene), goggles, and full protective clothing are also required.

Care should always be exercised in dust/mist areas.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure:

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Do not touch or walk through spilled material.

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

Recommended Equipment:

Positive pressure, full-face piece self-contained breathing apparatus(SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions:

Avoid breathing vapors. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and Cleaning up:

Cover container, but do not seal, and remove from work area. Prepare a decontamination solution of 2.0% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precautions on the supplier's safety data sheets.

Treat the spill area with the decontamination solution, using about 10 parts of the solution for each part of the spill, and allow it to react for at least 15 minutes. Carbon dioxide will be evolved, leaving insoluble polyureas. Residues from spill cleanup, even when treated as described may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste.

Slowly stir the isocyanate waste into the decontamination solution described above. Let stand for 48 hours, allowing the evolved carbon dioxide to vent away, residues may still be subject to RCRA storage and disposal requirements. Dispose off in compliance with all relevant local, state, and federal laws and regulations regarding treatment.

SECTION 7) HANDLING AND STORAGE

General:

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.

Ventilation Requirements:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements:

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous.
Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Ground and bond containers and receiving equipment. Avoid static electricity by grounding.

Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection:

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin Protection:

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Depending on conditions of use, additional protection may be required such as apron, arm covers, or full body suit.
Wash contaminated clothing before re-wearing.

Respiratory Protection:

If airborne concentrations exceed or are expected to exceed the TLV, use MSHA/NIOSH approved positive pressure supplied pressure supplied air respiratory with a full face piece or an air supplied hood. For emergencies, use a positive pressure self-contained breathing apparatus. Air purifying (cartridge type) respirators are not approved for protection against isocyanates.

Appropriate Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	OSHA TWA (ppm)	OSHA TWA (mg/m3)	OSHA STEL (ppm)	OSHA STEL (mg/m3)	OSHA- Tables- Z1,2,3	OSHA Carcinogen	OSHA Skin designation	NIOSH TWA (ppm)	NIOSH TWA (mg/m3)	NIOSH STEL (ppm)	NIOSH STEL (mg/m3)	NIOSH Carcinogen
4,4'- METHYLENEDIPHEN- YL DIISOCYANATE	0.02 ceiling	0.2 ceiling			1			0.005	0.050			
DIBUTYL PHTHALATE		5			1				5			

Chemical Name	ACGIH TWA (ppm)	ACGIH TWA (mg/m3)	ACGIH STEL (ppm)	ACGIH STEL (mg/m3)
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4,4'-METHYLENEDIPHENYL DIISOCYANATE	0.005	0.051		
DIBUTYL PHTHALATE		5		

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	9.04 lb/gal
Specific Gravity	1.08
VOC Regulatory	0.00 lb/gal

VOC Part A & B Combined	N.A.
Appearance	Thin Liquid
Odor Threshold	N.A.
Odor Description	Mild Chemical
pH	N.A.
Water Solubility	Reacts with Water
Flammability	N/A
Flash Point Symbol	N.A.
Flash Point	93 °C
Viscosity	N.A.
Lower Explosion Level	N.A.
Upper Explosion Level	N.A.
Vapor Pressure	N.A.
Vapor Density	Heavier than air
Freezing Point	N.A.
Melting Point	N.A.
Low Boiling Point	204 °C
High Boiling Point	N.A.
Auto Ignition Temp	N.A.
Decomposition Pt	N.A.
Evaporation Rate	Slower than ether
Coefficient Water/Oil	N.A.

SECTION 10) STABILITY AND REACTIVITY

Stability:

Material is stable at standard temperature and pressure.

Conditions to Avoid:

Heat, high temperature, open flame, sparks, and moisture. Contact with incompatible materials in a closed system will cause liberation of carbon dioxide and buildup of pressure.

Hazardous Reactions/Polymerization:

Will not occur under normal conditions but under high temperatures in the presence of alkalis, tertiary amines, and metal compounds will accelerate polymerization. Possible evolution of carbon dioxide gas may rupture closed containers.

Incompatible Materials:

This product will react with any material containing active hydrogens, such as water, alcohol, ammonia, amines, alkalis and acids, the reaction with water is slow under 50°C, but is accelerated at higher temperature and in the presence of alkalis, tertiary amines, and metal compounds. Some reactions can be violent. Material can react with strong oxidizing agents.

Hazardous Decomposition Products:

Carbon dioxide, carbon monoxide, nitrogen oxides, trace amounts of hydrogen cyanide and unidentified organic compounds may be formed during combustion.

SECTION 11) TOXICOLOGICAL INFORMATION

Skin Corrosion/Irritation:

Isocyanates react with skin protein and moisture and can cause irritation. Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.

Causes mild skin irritation

Serious Eye Damage/Irritation:

Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. Prolonged vapor contact may cause conjunctivitis. Any level of contact should not be left untreated.

Causes serious eye irritation

Carcinogenicity:

Suspected of causing cancer.

Respiratory/Skin Sensitization:

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

Germ Cell Mutagenicity:

No data available

Reproductive Toxicity:

May damage fertility or the unborn child (state specific effect if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

Specific Target Organ Toxicity - Single Exposure:

No data available

Specific Target Organ Toxicity - Repeated Exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard:

No data available

Acute Toxicity:

No data available

0000101-68-8 4,4'-METHYLENEDIPHENYL DIISOCYANATE

LC50 (rat): 369-490 mg/m3 (aerosol) (4-hour exposure) (1)

LC50 (rat): 178 mg/m3 (17.4 ppm) (duration of exposure not reported) (2)

LD50 (oral, rat): greater than 10,000 mg/kg (1,2)

LD50 (dermal, rabbit): greater than 10,000 mg/kg (1)

LD50 (oral, mouse): 2,200 mg/kg (3)

0009016-87-9 POLYMETHYLENE POLYPHENYL ISOCYANATE

LC50 (rat): 490 mg/m3 (aerosol) 4-hour exposure (22)

LD50 (oral, rat): greater than 10000 mg/kg (PMPPi) (2)

LD50 (dermal, rabbit): greater than 5 mL/kg (6200 mg/kg) (PMPPi) (2)

0000084-74-2 DIBUTYL PHTHALATE

LC50 (mouse): 17680 mg/m3 (4-hour exposure); cited as 25000 mg/m3 (2-hour exposure) (12)

LD50 (oral, rat): 8000 mg/kg (1)

LD50 (oral, mouse): 4840 mg/kg (10, unconfirmed)

SECTION 12) ECOLOGICAL INFORMATION

Toxicity:

Very toxic to aquatic life

Persistence and Degradability:

No data available.

Bioaccumulative Potential:

No data available.

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal:

Under RCRA, it is the responsibility of the user of the product, to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information:

Not regulated.

IMDG Information:

Not regulated.

IATA Information:

Not regulated.

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000084-74-2	DIBUTYL PHTHALATE	18% - 32%	CERCLA,HAPS,SARA312,SARA313,VHAPS,VOC,TSCA,RCRA,CA_Prop65 - California Proposition 65
0000101-68-8	4,4'-METHYLENEDIPHENYL DIISOCYANATE	4% - 7%	CERCLA,HAPS,SARA312,SARA313,VHAPS,VOC,TSCA
0009016-87-9	POLYMETHYLENE POLYPHENYL ISOCYANATE	5% - 9%	SARA312,SARA313,VOC,TSCA
0026447-40-5	MDI (MONOMER)	1.1% - 1.9%	SARA312,TSCA
0068092-58-0	POLYURETHANE PREPOLYMER	39% - 72%	SARA312,TSCA

SECTION 16) OTHER INFORMATION

OTHER INFORMATION:

Note: As per GHS, category 1 is the greatest level of hazard within each class.

GLOSSARY:

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ - Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA - Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

HBMWD COLLECTOR
CONCRETE CRACK-JOINT INJECTION WITH
WATER-REACTIVE POLYURETHANE GROUT

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This section specifies furnishing and installing a concrete crack sealing system with a single component injected water-reactive polyurethane grout for water fix of joints, cracks, fractures and holes in concrete, and the repair of expansion joints as directed by the Engineer and as shown on the Drawings.
- B. The contractor shall furnish, at no additional cost to the Owner, the services of a manufacturer approved technical field representative to insure proper injection of the water-reactive polyurethane grout.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine all of the Contract Documents for requirements that affect the work of this section.
- B. Other sections that directly relate to the work of this section include, but are not limited to, the following:
 - 1. Special provisions for limitations in work hours and other security requirements.
 - 2. Appendix A: Details of Repairs.
 - 3. Appendix B: Tabulation of quantities and locations of the work.

1.03 QUALITY CONTROL

- A. Manufacturing Qualifications
 - 1. The manufacturer of the specified product shall:
 - a. Have an established program of training, certifying, and technically supporting a nationally organized Approved Contractor Program.
 - b. Have domestically produced product.
- B. Contractor Qualifications
 - 1. Contractor shall be an Approved Contractor of the manufacturer of the specified product, who has completed a program of instruction in the use of the specified repair material, and provide certification from the manufacturer attesting to their Approved Contractor status. Contractor shall be able to demonstrate past performance on at least five jobs of similar scope and size.
- C. Manufacturer's Representative
 - 1. Make all arrangements and pay all costs to have manufacturer's authorized Technical Representative on the job at the beginning of all major phases of the work, including joint preparation, and installation of polyurethane grout, to advise installer of the proper procedures and quality control techniques.

1.04 SUBMITTALS

A. Product Data

Submit manufacturer's product data, installation instructions, use limitations and recommendations for polyurethane grout material used and for all other associated materials as requested by the Engineer. Grout materials shall be non-flammable and non-toxic when cured.

- B. Provide a certificate of compliance stating that the repair material meets the specified requirements. Provide the manufacturer's current printed literature on the specified product.
- C. The Contractor shall submit a complete list of equipment and procedures for the proposed sealing of concrete cracks, holes fractures and joints.
- D. The Contractor shall submit to the Engineer for approval a detailed procedure for the installation of the water reactive polyurethane grout.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver the specified product in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers.
- B. Store the specified product in a condition as recommended by the manufacturer.

1.06 JOB CONDITIONS

- A. Environmental Conditions

Store dry at 50-90 degrees F. Material shall be 65-85 degrees F before using. Protect against freezing. Discard frozen material.

- B. pH of Water

The contractor shall test the pH of any ground water leaking into the structure. If the pH is high than 10 or lower than 3, inform the engineer and consult the grout manufacturer to get a material recommendation.

- C. Protection

Precautions should be taken to avoid damage to any surface or utilities, such as water pipes, conduits, or any mechanical or electrical systems on the site.

PART 2 – MATERIALS

2.01 POLYURETHANE WATER REACTIVE CHEMICAL GROUT

- A. The grouting material shall be a single component low viscosity hydrophobic polyurethane liquid. The grout shall be a water reactive single component polyurethane grout, developed to stop active leaks. The grout shall be nontoxic after curing. The polyurethane liquid shall react with water to foam and expand to form a flexible, tough, rubber type gasket that stops water.
- B. The grouting material shall be certified by the manufacturer to contain no toluene diisocyanates (TDIs).
- C. All water reactive polyurethanes grouts shall be packaged in metal containers with a blanket of dry nitrogen or other moisture free inert gas. Products packaged in plastic containers or without a moisture free inert gas layer will not be approved for use on this project.
- D. The product shall be CCS™ Grout 2 Flex by ChemCo Systems, Inc. Other products that meet the entire specified criterion of section 2.01 produced by other qualified manufacturers will be considered provided they are submitted for approval prior to bid.

- E. Product Properties of the Uncured Polyurethane Chemical Grout

Property — Standards — Result

- 1. Solids Content — ASTM D2369 — 100%
- 2. Viscosity — ASTM D2196 — 500 cps @ 77°F
- 3. Color — Visual — Pale Yellow

4. Density — ASTM D1638 — 9.0 lbs/gal
 5. Flash Point — ASTM D93 — >200 deg. F
- F. Packers are required for injection. Packers for injection shall be supplied from the manufacturer.
- G. Hoses: Moisture impermeable hoses are required for use where grout material is being pumped.
- H. Expansion Joint Backer rod: The expansion joint backer rod shall be cross linked open cell polyurethane foam with a rectangular or circular cross section. The cross section of the cross-linked open cell polyurethane foam shall be a minimum 150% of the width of the joint as measured between the cleaned concrete surfaces.
- I. Surface Sealant: Cracks and joints with a width greater than 1/4" may require a surface seal to contain the grout during injection. Surface seal cracks with ChemCo CCS™ 170 Structural Bonder Paste, or polyurethane soaked oakum or open cell backer rod, depending on the size of the crack or joint.

PART 3 – CONSTRUCTION METHODS

3.01 SURFACE PREPARATION

- A. The cracks, holes, cold joints and fractures shall be clean, and sound. Remove dust, laitance, grease, curing compounds, waxes, impregnations, foreign particles, coating, efflorescence, rust stains and disintegrated materials from the defects by wire brushing and scraping or mechanical means as approved by the manufacturer. All cracks, fractures, holes, joints, etc. shall be thoroughly flushed with clean water to remove dirt, dust and other contaminants. If joints or cracks that are being sealed are dry, water shall be pumped into the cold joint or crack before injecting grout.
- B. Expansion joints to be repaired shall have all temporary drain gutters removed prior to surface preparation. The expansion joints shall be clean and sound. Remove all dust laitance, grease, curing compounds, waxes, impregnations, foreign particles, coatings, efflorescence, rust stains, fiber filler and any other unsuitable material which will inhibit bond to the dimensions shown on the drawings.
- C. Repair cracks and cold joints by drilling offset test holes at a distance from the defect of 1/2 the depth of the concrete, at an angle sufficient to intersect the defect at approximately half the distance of the concrete. Injection hole spacing is normally 7 inches or up to 25 inches apart depending upon the width of the defect. Generally, the wider the defect, the greater the distance of grout travel; therefore, the injection holes will be farther apart. The purpose of the test holes is to pump water into the crack or cold joint to determine spacing for injectors along the crack. Drill the holes to intersect the crack or cold joint midway through the substrate. Install the injection packers in holes and tighten. If the defect to be injected is 1/4" or greater at the surface, use oil free oakum saturated with grout and mixed with water. Hold oakum for 2 to 3 minutes to allow foaming and insert oakum into defect, hole or cold joint. Water should be sprayed into area before inserting activated oakum.
- D. For thin concrete walls of 6" or less, or for extremely tight cracks, the injection holes may be drilled directly into the defect itself to prevent damage to the concrete.
- E. The expansion joints shall be repaired by the insertion of the cross-linked open cell polyurethane foam backer rod saturated with the ChemCo CCS™ Grout 2 Flex into the expansion joint as shown on the plans. The selection of the backer rod cross section is to be performed after the joint is cleaned and measured. The backer rod cross section is to be 150% larger than the cross section of the open cleaned expansion joint.

3.02 APPLICATION

- A. pH

Prior to the injection of polyurethane grout any water leaking into the structure must be tested for pH value. If the pH of the water is over 10 or under 3 inform the engineer and consult the grout manufacture for a product recommendation.

B. Installation Procedure Crack Injection

1. This grout requires a catalyst to react properly.
2. Injection Method: The injection equipment shall be used to meter the polyurethane chemical grout and dispense the product into the prepared crack, hole or joint. The unit shall be portable and be equipped with positive displacement type pumps that are multi ratio or plural component with adjustable fittings to provide positive control of the polyurethane chemical grout at the nozzle. The pumps shall be air powered or electric.
3. Follow manufacturer's recommendation for the use of safety equipment required for the handling and storage of the polyurethane grout.

C. Injection of Grout

1. Basic steps for crack or joint repair are as follows:
 - a) Identify the area to be repaired and clean the surface sufficiently to identify the crack or joint.
 - b) Drill a hole to intersect the crack, joint or defect.
 - c) Flush the drill hole with water to remove drilling dust.
 - d) Install a packer /port with a psi rating suitable for the anticipated pump pressures.
 - e) Using a dedicated water pump, inject water through the packer/port to wet out the defect and flush out any residue.
 - f) If the crack, joint or defect is too wide, the repair material may flow out of the surface before fully reacting. In these cases, a surface seal may be required to contain the repair material until it is cured.
 - g) Mix repair material in accordance with manufacturer's published instructions.
 - h) Perform a cup test to insure proper repair material reaction.
 - i) Note: Always use a dedicated resin pump to inject chemical grouts and not the same pump used to pump water. Pump the repair material with a dedicated resin pump through the packer/port.
 - j) Pump from the lowest point to the highest of a vertical crack or joint and from the outsides toward the middle of a horizontal crack or joint.
 - k) Upon completion of all ports, make a second pass and as many additional passes as required to cause material rejection or meet other specified completion criterion.
 - l) Pump entire specified repair area to the repair material rejection or other specified criterion.
 - m) If using a hydro active resin, pump a small amount of water in each packed to insure full reaction of all repair material in the drill hole.

2. Flushing:

Flush the crack to be injected with clean potable water prior to the installation of the grout. Observe the return of the water from the surface of the crack prior to moving to the next injection port for water flushing. If the crack is contaminated with efflorescence, a mixture of 5% muriatic acid and water may be used to flush the crack. The entire crack must be flushed with clean water prior to the injection of polyurethane grout.

3. Pump Pressures:

Pump polyurethane chemical grout at 250 to 1500 psi into or behind fissures or into voids, which are

allowing water to infiltrate into unwanted areas. Begin at the lowest pressure that the pump will operate and increase pressure until a slow, steady pumping speed is reached. Adjust pumping pressure as required during the injection process to maintain a slow, steady injection rate. In very tight or hairline cracks, higher pump pressures may be required.

4. Pumping Procedure:

Pump polyurethane chemical grout for 45 seconds and then pause to allow the material to flow into all of the cracks and crevices. Watch for material flow and water movement to appear on the surface. When movement stops, begin injection into the next packer. Re-inject as necessary to assure that all voids are properly sealed off.

5. Cautions:

Adhere to all manufacturers' caution notes as stated in product literature including:

- a. The review of drawings of the areas to be repaired.
- b. Minimum substrate temperature shall be 32 degrees F: minimum material temperature, 60 degrees F.
- c. All equipment in contact with grout shall be dry.
- d. Be sure to test for pH of the water; leaking through the defect.

D. Repair of Expansion Joints

The repair of the expansion joints shall be performed in the following manner:

Clean the concrete surface of all of the existing sealant, backer rod and fiberboard filler to the dimensions shown on the drawings. The cleaning shall be performed using brushes, chippers and other suitable equipment to provide a clean sound concrete surface for the polyurethane grout to bond.

Open cell polyurethane backer rod is to be soaked with water and wrung out to remove all excess water. Once wrung out the backer rod is to be soaked with ChemCo CCS™ Grout 2 Flex in a bucket or other suitable container.

After the backer rod is saturated with the ChemCo CCS™ Grout 2 Flex, it is to be inserted into the expansion joint as shown on the drawings, to a depth of at least four times the width of the joint.

If required, after insertion into the expansion joint, the saturated backer rod is to be sprayed with a water mist to enhance the catalization of the polyurethane grout.

After the polyurethane grout has cured, repeat the procedure with a second open cell backer rod installing it just below the face of the joint. An open space between the two backer rod installations of at least two times the width of the joint should be maintained.

Allow both polyurethane backer rods to cure completely.

After curing is complete, use an injection needle to penetrate the cured polyurethane soaked backer rod at the face of the joint to allow injection of the void between the two backer rods.

Pump ChemCo CCS™ Grout 2 Flex into the void. Do not allow injection pressures to exceed 350 psi.

After all the polyurethane grout has cured, the concrete surfaces must be cleaned and dried to provide a bonding surface for the joint sealant to be placed over the backer rod.

The surface of the expansion joint shall be sealed with an elastomeric joint compound as recommended by the manufacturer. The joint sealant shall be concrete gray in color.

3.03 CLEANING

A. Clean-up

Completely flush pump and hoses with ChemCo CCS™ Pump Flush. Use a sharp-sided tool such as a putty knife or trowel to remove excess material from walls, floors, etc. Wait for material to cure before removing. Excess material may be sanded off if necessary.

- B. The uncured polyurethane chemical grout can be cleaned from tools with an approved solvent. The cured polyurethane chemical grout can only be removed mechanically.
- C. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.
- D. The contractor shall take steps to protect all existing surface around and near the joint. Drop clothes, masking, and coverings shall be used to prevent polyurethane grout from getting on finished surfaces.

3.04 MANUFACTURER'S FIELD REPRESENTATIVE

- A. The Contractor shall arrange with the materials manufacturer or distributor to have the services of a competent field representative at the work site prior to start of grouting work to instruct the work crews in the proper application procedures. He shall remain at the job site after work commences and continue to instruct until he and the Contractor and Engineer are satisfied that the crew has mastered the technique of installing the system successfully. The representative shall make periodic visits to the project as the work progresses and shall confer on each visit with the Contractor or Engineer.
- B. The manufacturer's field representative shall be fully qualified to perform the work and shall be subject to the approval of the Engineer.

PART 4 – COMPENSATION

4.01 METHOD OF MEASUREMENT

- A. The repair of leaking cracks shall be measured by the lineal foot for the crack sealing preparation, and successfully sealed. The quantity to be paid for shall be the lineal feet prepared and actually injected and successfully sealed for a period of 6 months after installation.
- B. The repair of expansion joints shall be measured by the lineal foot in place and the quantity to be paid for shall be the lineal feet actually placed and successfully repaired and sealed for a period of 6 months after installation.

4.02 BASIS OF PAYMENT

- A. The repair of leaking cracks will be paid for at the contract unit bid price per lineal foot as shown on the schedule of bid prices, which payment shall be full compensation for furnishing and installing all materials, labor, tools, equipment, and other incidentals necessary to complete the specified work.
- B. The repair of expansion joints will be paid for at the contract unit bid price per lineal foot as stipulated in the schedule of bid prices, which payment shall be full compensation for furnishing and installing all materials, labor, tools, equipment, and other incidentals necessary to complete the specified work.

4.03 PAYMENT ITEM

Section _____ Crack Sealing Linear Foot

END OF SECTION

Attachment B

INSURANCE REQUIREMENTS

Minimum Scope and Limits of Insurance: Contractor shall procure and maintain for the duration of the contract, *and for 5 years thereafter*, insurance against claims for injuries or death to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

Coverage - Coverage shall be at least as broad as the following:

1. **General Liability - Commercial General Liability (CGL)** - Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 00 01) including products and completed operations, property damage, bodily injury, personal and advertising injury with limit of at least five million dollars (\$5,000,000) per occurrence or the full per occurrence limits of the policies available, whichever is greater. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (coverage as broad as the ISO CG 25 03, or ISO CG 25 04 endorsement provided to the Humboldt Bay Municipal Water District) or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability** - Insurance Services Office (ISO) Business Auto Coverage (Form CA 00 01), covering Symbol 1 (any auto) with limit of one million dollars (\$1,000,000) for bodily injury and property damage each accident.
3. **Workers' Compensation Insurance** - The Contractor shall provide workers' compensation coverage as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease. **Waiver of Subrogation** (also known as Transfer of Rights of Recovery Against Others to Us): The Contractor hereby agrees to waive rights of subrogation to obtain endorsement necessary to affect this waiver of subrogation in favor of Humboldt Bay Municipal Water District, its officials, officers, employees, and authorized volunteers, for losses paid under the terms of this coverage which arise from work performed by the Named Insured for Humboldt Bay Municipal Water District; this provision applies regardless of whether or not Humboldt Bay Municipal Water District has received a waiver of subrogation from the insurer.
4. **Builder's Risk** - (Course of Construction) if necessary- insurance utilizing an "All Risk" (Special Perils) coverage form with limits equal to the completed value of the project and no coinsurance penalty provision. See **Responsibility of Work (page 3)**.
5. **Contractor's Pollution Liability** - (optional: if project involves environmental hazards) with limits no less than \$5,000,000 per occurrence or claim, and \$10,000,000 policy aggregate.

If the Contractor maintains broader coverage and or/higher limits than the minimums shown above, Humboldt Bay Municipal Water District requires and shall be entitled to the broader coverage and/or higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum of insurance and coverage shall be available to Humboldt Bay Municipal Water District)

Other Required Provisions - The Commercial General Liability policy and Contractors Pollution (if necessary) are to contain, or be endorsed to contain, the following provisions:

1. **Additional Insured Status:** Humboldt Bay Municipal Water District, its officials, officers, employees, and authorized volunteers are to be given insured status (at least as broad as ISO Form CG 20 10 11 85) or if not available, through the addition of **both** CG 20 10 10 01 and CG 20 37 10 01, with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance.
2. **Primary Coverage:** For any claims related to this project, the Contractor's insurance coverage shall be primary (at least as broad as ISO CG 20 01 04 13) with respect to Humboldt Bay Municipal Water District, its officials, officers, employees, and authorized volunteers. Any insurance or self-insurance maintained by Humboldt Bay Municipal Water District, its officials, officers, employees, and authorized volunteers shall be excess of the Contractor's insurance and shall not contribute with it.

Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to Humboldt Bay Municipal Water District.

Acceptability of Insurers - Insurance is to be placed with insurers having a current A.M. Best rating of no less than A: VII or equivalent or as otherwise approved by Humboldt Bay Municipal Water District.

The Contractor agrees and he/she will comply with such provisions before commencing work. All of the insurance shall be provided on policy forms and through companies satisfactory to Humboldt Bay Municipal Water District. Humboldt Bay Municipal Water District reserves the right to obtain complete, certified copies of all required insurance policies, including the policy declarations page with endorsement number. Failure to continually satisfy the Insurance requirements is a material breach of contract.

Responsibility for Work - Until the completion and final acceptance by Humboldt Bay Municipal Water District of all the work under and implied by this agreement, the work shall be under the Contractor's responsible care and charge. The Contractor shall rebuild, repair, restore

and make good all injuries, damages, re-erections, and repairs occasioned or rendered necessary by causes of any nature whatsoever.

The Contractor shall provide and maintain **builder's risk** (course of construction) or an installation floater (for materials and equipment) covering all risks of direct physical loss, damage or destruction to the work in the amount specified in the General Conditions, to insure against such losses until final acceptance of the work by Humboldt Bay Municipal Water District. Such insurance shall insure at least against the perils of fire and extended coverage, theft, vandalism and malicious mischief, and collapse. The Policy shall be endorsed with Humboldt Bay Municipal Water District, its officials, officers, employees, and authorized volunteers named as loss payee, as their interest may appear. The making of progress payments to the Contractor shall not be construed as creating an insurable interest by or for Humboldt Bay Municipal Water District or be construed as relieving the Contractor or his/her subcontractors of responsibility for loss from any direct physical loss, damage or destruction occurring prior to final acceptance of the work by Humboldt Bay Municipal Water District

Deductibles and Self-Insured Retentions - Insurance deductibles or self-insured retentions must be declared by the Contractor, and approved by Humboldt Bay Municipal Water District. At the election of Humboldt Bay Municipal Water District, the Contractor shall either cause the insurer to reduce or eliminate such self-insured retentions as respects Humboldt Bay Municipal Water District, its officials, officers, employees, and authorized volunteers or the Contractor shall provide a financial guarantee satisfactory to the Humboldt Bay Municipal Water District guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Humboldt Bay Municipal Water District.

Verification of Coverage - Evidences of Insurance Contractor shall furnish Humboldt Bay Municipal Water District with copies of certificates and amendatory endorsements effecting coverage required by this contract. All certificates and endorsements are to be received and approved by Humboldt Bay Municipal Water District before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. Humboldt Bay Municipal Water District reserves the right to require complete, certified copies of all required insurance policies, including policy Declaration pages and Endorsement pages, required by these specifications, at any time. Failure to continually satisfy the Insurance requirements is a material breach of contract.

Continuation of Coverage - The Contractor shall, upon demand of Humboldt Bay Municipal Water District deliver evidence of coverage showing continuation of coverage for at least (5) years after completion of the project. Contractor further waives all rights of subrogation under this agreement. When any of the required coverages expire during the term of this agreement, the Contractor shall deliver the renewal certificate(s) including the general liability additional insured endorsement and evidence of waiver of rights of subrogation against Humboldt Bay Municipal Water District (if builder's risk insurance is applicable) to Humboldt Bay Municipal Water District at least ten (10) days prior to the expiration date.

Sub-Contractors - In the event that the Contractor employs other Contractors (sub-contractors) as part of the work covered by this agreement, it shall be the Contractor's responsibility to require and confirm that each sub-contractor meets the minimum insurance requirements specified above (via as broad as ISO CG 20 38 04 13). The Contractor shall, upon demand of Humboldt Bay Municipal Water District, deliver to Humboldt Bay Municipal Water District copies such policy or policies of insurance and the receipts for payment of premiums thereon.