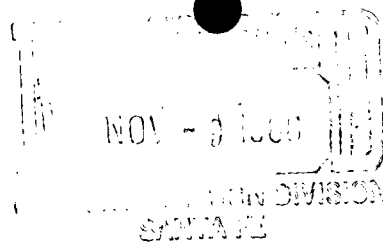


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REPORTS

YEAR(S):

1988



Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

November 4, 1988

David G. Bover, Hydrogeologist
State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

SUBJECT: Water Side Tank Farm Modifications
Unichem International Inc. - Hobbs, New Mexico

Dear Mr. Boyer:

The enclosed project drawings and specifications are being forwarded to your attention at the suggestion of Jerry Sexton with the local OCO office. Mr. Sexton visited Unichem's facilities yesterday afternoon at which time he toured Unichem's property. The purpose of the visit was to further acquaint him with Unichem's operations and to introduce him to the newly-started tank farm modification work that is being performed.

During the course of Mr. Sexton's visit, some areas of prior chemical spills were specifically brought to his attention. The majority of the spills were definitely non-hazardous in nature. For those that may have been hazardous, soil testing will be performed; if hazardous material is identified, proper disposal will be performed by Unichem International. In any event, you will be kept informed.

Please do not hesitate to contact me if you have any questions.

Sincerely,

UNICHEM INTERNATIONAL INC.

Wayne Price
Staff Engineer

LWP:mms

Enclosures

UNICHEM INTERNATIONAL INC.

SPECIFICATIONS AND INTERPRETATIONS

FOR

WATER SIDE TANK FARM MODIFICATIONS

UNICHEM INTERNATIONAL INC.
707 NORTH LEECH
HOBBS, NEW MEXICO

October 1988

(AFE #88-12)

Unichem International Inc. -- Owner/Contractor
707 North Leech; P.O. Box 1499
Hobbs, New Mexico 88240

(505) 393-7751

WATER SIDE TANK FARM MODIFICATIONS

UNICHEM INTERNATIONAL INC.
707 NORTH LEECH
HOBBS, NEW MEXICO

TABLE OF CONTENTS

DIVISION I - GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS

A. Agreement & General Conditions

- Article 1 - Scope of Work
- Article 2 - Time of Completion
- Article 3 - Contract Sum
- Article 4 - Progress Payments
- Article 5 - Acceptance and Final Payment
- Article 6 - Contract Documents

B. Supplemental General Conditions

- Article 1 - Definitions
- Article 2 - Execution of Documents
- Article 3 - Samples
- Article 4 - Materials, Appliances, Employees
- Article 5 - Permits and Regulations
- Article 6 - Protection of Work and Property
- Article 7 - Superintendence/Supervision
- Article 8 - Changes in Work
- Article 9 - Correction of Work Before Final Payment
- Article 10 - Subcontractor's Liability Insurance
- Article 11 - Fire Insurance
- Article 12 - Rejection of Bids
- Article 13 - Safety
- Article 14 - Coordination of Work
- Article 15 - Relations of Owner/Contractor and Subcontractor
- Article 16 - Arbitration
- Article 17 - Use of Premises
- Article 18 - Clean Up
- Article 19 - Errors and Omissions
- Article 20 - Guaranty/Warranty

DIVISION II

Dirt Work, Excavation and Concrete

TABLE OF CONTENTS

(CONTINUATION)

DIVISION III

Electrical Installations

DIVISION IV

Piping and Mechanical

DIVISION V

Tank Insulation

DIVISION VI

Contractual Documents

- A. Bid Document
- B. Performance Bond
- C. Payment Bond
- D. Contract
- E. Contractor's Guarantee

APPENDIX

Appendix A -- Phase Diagram and Tank Detail

ADDENDA TO SPECIFICATIONS AND INTERPRETATIONS

-- Addendum #1

DIVISION I - GENERAL CONDITIONS
AND INSTRUCTIONS TO BIDDERS

AGREEMENT AND GENERAL CONDITIONS BETWEEN OWNER/CONTRACTOR AND SUBCONTRACTOR:

THIS AGREEMENT is made this _____ day of _____ in the year of _____ by and between Unichem International Inc., hereinafter called the Owner/Contractor, and _____, hereinafter called the Subcontractor. WITNESSETH, that the Subcontractor and the Owner/Contractor for the considerations hereinafter named as follows.

Article 1 - Scope of Work:

The Subcontractor shall furnish all the material and perform all of the work for area (dirt, electrical or piping), as shown on Drawings and described in the Specifications prepared by the Owner/Contractor, all in accordance with the terms of the Contract Documents.

Article 2 - Time of Completion:

The work shall be substantially completed by sixty (60) days from issuance of Official Notice to Proceed.

Article 3 - Contract Sum:

The Owner/Contractor shall pay the Subcontractor for the performance of the contract subject to the additional provisions provided therein in current funds, the sum of _____ dollars (\$_____).

Article 4 - Progress Payments:

The Owner/Contractor shall make payments to the account of the Subcontractor, as follows: On the _____ day of each month the Owner/Contractor shall pay \$_____ to the account of the Subcontractor and to be continued until the entire amount has been paid.

Article 5 - Acceptance and Final Payment:

Final payment shall be due sixty (60) days after completion of the work, provided the contract be then fully performed, subject to the provisions of the General Conditions and Supplemental General Conditions.

Article 6 - Contract Documents:

The Contract Documents are as noted in Article 1, Paragraph (a), of the Supplemental General Conditions.

DIVISION I - GENERAL CONDITIONS
AND INSTRUCTIONS TO BIDDERS
(CONTINUATION)

B. SUPPLEMENTAL GENERAL CONDITIONS

Article 1 - Definitions:

- (a) The "Contract Documents" consist of the Agreement, the General and Supplemental Conditions of the Contract, and the Drawings (UI-88001 C1-C2; UI-87001 E1-E3 and UI-88001 E1-E2; UI-88001 M1-M4) and Specifications, including all modifications thereof incorporated into the Documents before their execution. These form the Contract Documents.
- (b) The "Owner" and the "Contractor" are to be considered as one in the same and hereinafter shall be referred to as such. The Subcontractors are those mentioned as such in the Agreement. They are treated throughout the Contract Documents as if each were of the singular number and masculine gender.
- (c) The term "Subcontractor", as employed herein, includes only those having a direct contract with the Owner/Contractor and it includes one who furnishes material worked to a special design according to the plans and/or specifications of this work but does not include one who merely furnishes material not so worked.
- (d) The term "Work" of the Subcontractor includes labor or materials or both.

Article 2 - Execution of Documents:

The Contract Documents shall be signed in duplicate by the Owner/Contractor and the Subcontractor. In the event that the Owner/Contractor and the Subcontractor fail to sign, such contracts will be held void until signings are made.

Article 3 - Samples:

The Subcontractor shall furnish for approval all samples as directed. All parts and materials are subject to approval of the Owner/Contractor's Superintendent or Engineer.

Article 4 - Materials, Appliances, Employees:

Unless otherwise stipulated, the Subcontractor shall provide and pay for all materials, labor, water, light, power, and other facilities necessary for the execution and completion of the work. Unless otherwise specified, all materials shall be new. Both workmanship and materials shall be of good quality. The Subcontractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

Article 4 - Materials, Appliances, Employees:

(Continuation...)

The Subcontractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work an unfit person or anyone not skilled in the work assigned to him.

Article 5 - Permits and Regulations:

Licenses of a temporary nature, permits and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the Owner/Contractor, unless otherwise specified.

Article 6 - Protection of Work and Property:

The Subcontractor shall continuously maintain adequate protection of all his work from damage. He shall adequately protect adjacent property as provided by law and the Contract Documents.

Article 7 - Superintendence/Supervision:

The Subcontractor shall keep on his work, during its progress, a competent Superintendent and any necessary assistants. The Superintendent shall represent the Subcontractor in his absence and all directions given to him shall be as binding as if given to the Subcontractor.

Article 8 - Changes in Work:

The Owner/Contractor, without invalidating the Contract, may order extra work or make changes by altering, adding to, or deducting from the work, the Contract Sum being adjusted accordingly.

Article 9 - Correction of Work Before Final Payment:

The Subcontractor shall promptly replace and re-execute his work in accordance with the Contract and without expense to the Owner/Contractor and shall bear expense of making good all work of other Subcontractors destroyed or damaged by such removal or replacement.

Article 10 - Subcontractor's Liability Insurance:

The Subcontractor shall maintain such insurance as will protect him from claims under workman's personal injury, including death, which may arise from operations under this Contract. A certificate of insurance coverage will be presented to the Owner/Contractor by the Subcontractor at the time of their first meeting and before any considerations are made as to contractual agreements.

Article 11 - Fire Insurance:

The Subcontractor shall effect and maintain fire insurance upon the structure or area in which his work is to be accomplished to one hundred percent (100%) of the insurable value thereof, including items of labor and materials connected therewith, in place or to be used.

Article 12 - Rejection of Bids:

The Owner/Contractor reserves the right to reject any or all bids.

Article 13 - Safety:

The Subcontractor shall abide by all safety procedures under which the Owner/Contractor conducts his daily business and shall supply safety and environmental compliance equipment for his employees as directed by the Owner/Contractor's Superintendent and/or Engineer. Additional safety requirements include the following:

- a. The Subcontractor shall comply with all applicable federal, state, and local governmental safety, environmental and health laws, regulations, ordinances, and standards.
- b. The Subcontractor shall provide to the Owner/Contractor's Superintendent and/or Engineer immediate verbal notification and a prompt written report of any injury or fatality occurring on the worksite, along with copies of reports submitted to any governmental agencies.
- c. The Subcontractor shall permit periodic safety inspections by the Owner/Contractor.
- d. The Owner/Contractor has the right to suspend work by the Subcontractor or terminate the contract without penalty for Subcontractor's failure to comply with applicable safety requirements.
- e. The Subcontractor shall comply with all applicable company safety standards and all site specific requirements including, but not limited to, the following:
 1. Non-prescription controlled substances, behavior or mood altering prescription drugs and being under their influence, unauthorized firearms or weapons, alcohol, and non work-related dangerous materials are adverse to a safe work environment, and their sale, use, distribution and/or possession are prohibited at company facilities, in any facility where company business is being conducted, or in any vehicle used for company business.
 2. Individuals who perform work in a confined space either directly or in a supervisory role are to be knowledgeable of

the requirements set forth in the "Southwest Region confined space entry procedure" and must comply with all provisions of the procedure.

- (a) No person will be allowed to enter a confined space, i.e., tank, heater treater, gun barrel, separator, etc., without positive pressure mode air respiratory equipment, a life line, an observer equipped with positive pressure air mode air respiratory equipment and an approved "Confined space entry permit checklist".
 - (b) Applicable precautions outlined in the confined space entry should be used during entry into other confined spaces where necessary to protect personnel. Such other confined spaces are defined as enclosures having limited means of egress such as but not limited to open-topped spaces of more than four feet (4') in depth such as pits, cellars, bell holes, etc., and meter houses.
- 3. Hardhats are required to be worn at the worksite; however, metal hardhats are prohibited. Additional protective clothing, equipment, and accessories are to be utilized when either Subcontractor or Owner/Contractor deems necessary by the work situation.
 - 4. First aid kit and dry chemical fire extinguishers are to be readily available for use at the worksite.
 - 5. Smoking is not allowed at the worksite or in other company operated areas where such activity could be considered hazardous.
 - 6. Welding and other hot work is to be performed only when absolutely necessary and under the direction of the Subcontractor's supervisory personnel and hot work permit.
 - 7. Wearing of a seat belt is required in a moving vehicle on Unichem International property.
 - 8. The Subcontractor should take care to avoid exposure to potentially harmful materials, substances, and elements that Subcontractor knows could exist at Owner/Contractor's worksites or which have been identified by Owner/Contractor.

With respect to potentially hazardous chemicals, the Subcontractor and his personnel must take care to treat all oilfield chemicals with caution. None should be permitted in the mouth and contact with the skin or eyes should be avoided. The Owner/Contractor's Superintendent, Engineer, or Safety Director is to be consulted if there is any doubt about handling a specific chemical. Material safety data sheets (MSDS) are available for all chemicals contained on the Owner/Contractor's property; these MSD Sheets should be read and information provided by them understood.

9. The Subcontractor and his personnel shall practice prudent and safe work habits at all times, with special precautions to be taken when working with and around moving machinery and equipment.
10. The Subcontractor shall take time to plan work properly, utilizing the lock and tag method, and shall avoid taking shortcuts or chances.

Article 14 - Coordination of Work:

All Subcontractors will coordinate their work with each other so as not to impede the job or hinder the normal business day of the Owner/Contractor.

Article 15 - Relations of Owner/Contractor and Subcontractor:

The Subcontractor agrees to bind every Minor Contractor by the terms of the Agreement, the General and Supplemental Conditions, and the Drawings and Specifications as far as applicable to his work, including the following provisions of this Article, unless specifically noted to the contrary in a Subcontract approved in writing as adequate by the Owner/Contractor.

THE SUBCONTRACTOR AGREES:

- (a) To be bound to the Owner/Contractor by the terms of the Agreement, the General and Supplemental Conditions, and the Drawings and Specifications and to assume toward him all the obligations and responsibilities that he, by these documents, assumes.
- (b) To make all claims for extras, for extension of time, and for damages for delays or otherwise, to the Owner/Contractor in the manner provided for in the General Conditions for like claims by the Subcontractor upon the Owner/Contractor, except that the time for making claims for extra cost(s) is one (1) week.

THE OWNER/CONTRACTOR AGREES:

- (a) To be bound to the Subcontractor by all obligations that the Owner/Contractor assumes under the terms of the Agreement, the General and Supplemental Conditions, and the Drawings and Specifications, and by all provisions thereof.
- (b) To pay the Subcontractor, upon presentation of certificates, if under the schedule, the amount allowed to the Contractor or account of the Subcontractor work to the extent of the Subcontractor's interest therein.
- (c) To make no demand for liquidated damages or penalty for delay in any sum in excess of such amount as may be specifically named in the Contract.
- (d) To give the Subcontractor an opportunity to be present and to submit evidence in arbitration involving his rights.

THE SUBCONTRACTOR SHALL:

In the matter of arbitration, the Subcontractor shall extend to the Owner/Contractor the same rights afforded him.

Nothing in this Article shall create any obligation on the part of the Owner/Contractor to pay to or to see to the payment of any sum to any Minor Contractor.

Article 16 - Arbitration:

All disputes, claims, or questions subject to arbitration in accordance with the provisions or the obtaining of this Agreement shall be specifically enforceable under the prevailing arbitration law, and judgment upon the award rendered may be entered in the highest court of the forum, state or federal, having jurisdiction. It is mutually agreed that the decision of the arbitrators shall be a condition precedent to any right of legal action that either party may have against the other.

Article 17 - Use of Premises:

The Subcontractor shall confine his apparatus, storage of materials, and operations of his workmen to limits indicated by law, ordinances, and permits, and shall not unreasonably encumber the premises under his materials.

Article 18 - Clean Up:

The Subcontractor shall at all times keep the premises free of waste materials or work materials. At the completion of the work he shall remove all rubbish from and about the building area and shall leave his work "broom clean". The Subcontractor shall also execute clean up at any time the Owner/Contractor's Superintendent so directs.

Article 19 - Errors and Omissions:

- (a) If any errors or omissions appear in the Drawings, Specifications, or other Documents, the Subcontractor shall notify the Owner/Contractor in writing of such omissions or errors within three (3) days of receiving such Drawings, Specifications, or other Documents.
- (b) In the event the Subcontractor fails to give such notice, he will be held responsible for the results of any such errors or omissions and the cost of rectifying the same.

Article 20 - Guaranty/Warranty:

- (a) The Contractor shall and does warrant and/or guarantee all work as called for in the various divisions of the Specifications when such work is performed by a Minor Contractor.

- (b) The Subcontractor shall and hereby does warrant and/or guarantee all work performed by him directly and for which guarantees are required in the divisions of this Specification.
- (c) The Subcontractor shall and hereby does warrant and/or guarantee the following for a period of one (1) year from the date of completion, as evidenced by the date of the final Certificates or the acceptance of the work. All movable or adjustable work shall remain in perfect working order, including apparatus, machinery, electrical equipment, piping, valves, and all other equipment to which this heading is applicable.

DIVISION II - DIRT WORK, EXCAVATION AND CONCRETE

This Contract is subject to the General Conditions of the Contract and the Subcontractor shall be bound by the same.

A. Scope of Work:

1. The work includes but is not necessarily limited to excavation; concrete form construction; dampproofing; joint sealing; removal of plastic soil; backfilling to indicated grades; and grading of drive to drain area to the satisfaction of the Owner/Contractor. In addition, this Subcontractor shall install steel grate and anchors as indicated on Drawings UI-88001 C1 and C2 or by the Owner/Contractor.
2. This Subcontractor is to coordinate his work with the other Subcontractors. He will not impede the work of others or the completion of the project by delaying in his division.
3. This Subcontractor, as well as all other Subcontractors, will work in accordance with the phase schedule set forth in the Phase Diagram, Appendix A.
 - a. All buried grounding cable and conduit is to be in place before concrete is poured. This Subcontractor shall obtain a statement of completion, in writing, from the Electrical Subcontractor verifying that all rods, cable, and conduit are in place and ready for concrete. This certificate shall be initialed and dated by the Owner/Contractor's Superintendent before any concrete is poured.
 - b. This Subcontractor shall coordinate his work with the Mechanical Subcontractor and install the sump pump mounting brackets. The brackets will be supplied by the Mechanical Subcontractor and installed under his supervision.
 - c. Anchors for pipe supports, lamp poles, catwalks and stairs shall be installed by this Subcontractor in accordance with Drawings or Owner/ Contractor's instructions.

B. Work Included:

This Subcontractor shall furnish all labor and materials to complete all excavation, site preparation, concrete with reinforcement steel and backfill and grading shown on Drawings or herein specified, or both, as follows:

1. Removal of present tank pad is considered part of this Contract. This step will be completed under the direction of the Owner/Contractor's Superintendent. Soil and refuse shall be separated into types as directed, some for re-use and some for disposal.

Approximately 250 cubic yards of soil shall be excavated and moved.

This Subcontractor should make this a separate work item in his total bid on the project. The Owner/Contractor retains the right to determine the final dispensation of soil matter removed. If some soil is re-used or retained, the Subcontractor shall grant credit to the Owner/Contractor on a per cubic yard basis.

2. Fill and backfill for all work herein as required to bring work to finished grades, including furnishing of any extra material required. Backfill shall be compacted to 95%.
3. All excess material shall be moved to other parts of the property as directed by the Owner/Contractor or, at the Owner/Contractor's directive, shall be removed from the site.
4. All footings shall be carried below grade as indicated by Drawings.
5. Where rock occurs, excavation will be made until a clearance of 18" is obtained between the rock and the bottom of the footings. This clearance will be filled and tamped in accordance with Drawings.
6. Keyways will be provided in accordance with Drawings.
7. Later, after backfill has settled, this Subcontractor shall fill all hollow places to bring same to grade.
8. This Subcontractor shall open a ditch as indicated on Drawings from the northwest corner of the proposed tank farm wall to the north corner and then south between the new wall and existing building. The ditch will continue to the southeast corner and then turn east and through the wall and flooring to a drainage trench inside the existing wall. The ditch shall be 12" wide on the north portion and 10" wide between the walls. The portion which goes into the building shall be 12" wide. The nominal depth shall be 12". A concrete drain trough shall be constructed over the ditch in accordance with Drawings.

After the Mechanical Subcontractor certifies his work complete, this Subcontractor shall backfill the ditch to the grade specifications set by the Owner/Contractor.
9. This Subcontractor shall install all permanent pipe supports, anchor bolts, sump pump brackets, catwalk/stair supports or anchors as indicated by Drawings or the Owner/Contractor's Superintendent, and shall provide a certificate of completion once his portion of the project is complete.
10. This Subcontractor shall obtain from the Electrical Subcontractor a certificate of completion, to be signed by the Electrical Subcontractor and the Owner/Contractor before any concrete is poured.
11. Once the construction work is complete, it shall be the duty of this Subcontractor to re-grade the driveway to ensure proper runoff; work to be performed to Owner/Contractor's satisfaction.

The work of this Subcontractor will not be considered complete until after a period of sixty (60) days or as directed by the Owner/Contractor. If necessary, the Subcontractor shall return to the site and re-grade all settlements which have occurred, bringing all excavation backfills and graded areas up to the proper elevation.

12. This Subcontractor is to maintain the area of his work and the actions of his personnel so as not to impede the progress of the total job, other Subcontractors, or the daily business operations of Unichem International Inc. In instances of unusual occurrences, he shall follow instructions issued by the Owner/Contractor's Superintendent.
13. The minimum curing time for all concrete shall be seven (7) days.

C. Materials:

1. This Subcontractor shall install steel grating in accordance with Drawings. The 1" grate to be used inside the dike area will be provided by the Owner/Contractor; the Subcontractor shall cut and fit the grate to the trench as specified in Drawings. The 4" grate used on the loading pad will be furnished and installed by the Subcontractor. Construction will follow specifications as per Drawings.
2. The steel grating installed by this Subcontractor must be on site and in place in time for the Electrical Subcontractor to complete the grounding connections and not delay the completion of the total job.
3. All exposed metal is to be painted; sandblasting shall be performed prior to the painting to obtain a "clean" surface. This is to be followed by application of one coat of Unichem DP-30, one coat of primer paint, and finished with one coat of corrosion resistant black epoxy finish paint.
4. Concrete Strengths:
 - a. Dike walls, floor, tank pads, inside sump trench of 4,000 p.s.i. concrete at 30 days.
 - b. Loading dock, dock sump trench, deep sump and walls of 6,000 p.s.i. concrete at 30 days.
5. Loading dock grate seats are to be of 4" X 4" X 3/8" angle steel, prepared with welded anchors and installed under the direction of the Owner/Contractor's Superintendent. Exposed surfaces shall be painted in accordance with above specifications.
6. A drain line of 4" diameter (threaded) is to be installed with a slope from the loading dock sump to the farm sump trench. The lower end is to be threaded to accept a 4" screwed flange, and a handle extension shall be installed to permit operation above the grate surface.

7. A drain line of 3" diameter is to be installed in accordance with the Drawings, originating inside the sub-dike (acid tank area) and draining to the deep sump. An industrial plastic grill is to be installed at the entrance; the line will maintain a downward slope of 1" in 10'. It will lie below the slab and end in the deep sump wall with threaded end which will accept a 3" threaded butterfly valve. A handle extension shall be installed to permit operation above the grate surface.
8. Reinforcement rods shall be installed in accordance with Drawings. "High chairs" shall be used where necessary to maintain proper positioning of rods.
9. Finished surface slope directions shall be as indicated on Drawings. Final surface finishes shall be performed to the specifications set forth by the Owner/Contractor's Superintendent. All flat surfaces shall have trowel smooth finish, wall edges with 1" chamfer, inside and outside. Outside vertical corners to have 1" X 1" X 45° chamfers.
10. Concrete shall be sealed with "Dura Seal", to be furnished by Owner/Contractor. Application shall be performed by this Subcontractor.
11. This Subcontractor shall construct a barrier about the freshly-poured concrete which will keep all wheeled traffic away from the construction work. Special emphasis is to be given to the deep sump area and shall only be removed at the discretion of the Owner/Contractor's Superintendent.

DIVISION III - ELECTRICAL INSTALLATIONS

This Contract is subject to the General Conditions of the Contract and the Subcontractor shall be bound by the same.

A. Scope of Work:

1. The work includes but is not necessarily limited to inspection of excavations; installation of distribution panel; provision of service from panel to tank farm area, circuits to lights, sump pump, heat tracing, and tank heaters; installation of grounding loop, rods and hookups, hookups to tanks, grates, rebar, pump and catwalks as required; and installation of switches, heat tracing receptacles, plates; disconnect at sump pump, heaters, pump hookup, lights, and conduit installation. The Subcontractor shall also obtain any permits required for the work.
2. This Subcontractor shall coordinate his work with the other Subcontractors. He will not delay the work of others by delaying in his own division of work. At all times he shall maintain his supplies, tools, equipment, and personnel in a professional manner. He shall do nothing to impede the regular business operations of the Owner/Contractor's company.
3. When the underground work is complete and ready for its concrete cover, this Subcontractor shall provide the Concrete Subcontractor with a written certificate so stating. This certificate shall be initialed by the Owner/Contractor's Superintendent and shall be accompanied by the Electrical Subcontractor's signature.
4. This Subcontractor shall coordinate his work with the Mechanical Subcontractor in the installation of electrical service to the sump pump. Both Subcontractors shall operate under the direction of the Owner/Contractor's Superintendent. This Subcontractor, as well as all other Subcontractors, will work in accordance with the phase schedule set forth in the Phase Diagram, Appendix A.

B. Work Included:

1. This Subcontractor shall furnish all materials, supplies, and labor for electrical installations in accordance with Drawings UI-87001 E1-E3 and UI-88001 E1-E2 with the exception of the sump pump control panel and tank heaters which shall be supplied by the Owner/Contractor. All work and materials shall conform to the National Electric Code.
2. The new water side heater control panel is to be installed in the hot water heater building, situated on the west wall to the right of the existing hot water control panel. Power for the new panel will come from the existing hot water panel and power for the lights and sump pump will originate at the existing light panel in the same building.

Two (2) 1-1/2" conduits will carry wiring via existing overhead pipe supports to the new tank farm area. Conduits will descend to the inside of the dike wall and travel to their respective points of service in accordance with Drawings. The conduits shall be kept high on dike walls; minimum acceptable distance is 1-1/2" from top.

3. The Electrical Subcontractor shall install ground rods and ground loop and shall provide tank connection stubs and install spare conduits with stubs where indicated. When the Mechanical Subcontractor has completed the final placement of the tanks, he will make the ground connections at each tank.
4. The Electrical Subcontractor shall supply and install a sump pump keyed switch. This installation shall be performed in conjunction with the other Subcontractors and all will work under the direction of the Owner/Contractor's Superintendent. As a part of his contract completion, the Electrical Subcontractor shall make the final electrical power connections at the switch and pump.
5. This Subcontractor shall, in cooperation with the Concrete Subcontractor, supervise the installation of a conduit which carries ground cables to the sump grates and grate seats. Grates are to be on site and in place by the time of electrical completions.
6. A ground connection will be made from the southeast corner of the proposed tank farm ground loop, underground, and to the metal building.
7. Test and trials of all circuits installed by this Subcontractor shall be conducted by him in the presence of the Owner/Contractor's Superintendent and/or Engineer. Errors found are to be the responsibility of the Subcontractor and all will be corrected before the contracted job is termed complete.
8. This Subcontractor is to maintain the area of his work and the actions of his personnel so as not to impede the progress of the total job, other Subcontractors, or the daily business operations of Unichem International Inc. In instances of unusual occurrences, he shall follow instructions issued by the Owner/Contractor's Superintendent.
9. This Subcontractor shall purchase and install heat tracing materials as required on the piping plan; type and quantity to be approved by the Owner/Contractor. Upon completion of installation, this Subcontractor shall test all heat trace circuits and certify correctness. Electric plan to be utilized as guide for circuits to be tested.

C. Materials:

1. All materials, supplies, and equipment to meet or exceed the National Electric Code.

2. Conduit is to be of rigid steel type, diameter as specified in Drawings or as directed by the Owner/Contractor's Superintendent.
3. Yard lights are to be of 175 W sodium vapor type, six in number, mounted on 25' X 3" pipe poles with base design in accordance with Drawings. Lights and poles shall be supplied by this Subcontractor. Lighting circuits will be controlled by photoelectric switches as specified by Owner/Contractor or tied into the existing switch circuit.
4. The keyed switch at the sump pump is to have ON, OFF, and AUTO positions.
Make: Square D
Type: KR 132
5. Weatherproof, surface flush junction boxes will be installed for access to grate grounding connections, to be located in accordance with Drawings. Grate connector cables will be carried by conduits. All conduit ends will be sealed in trench and connections will be made to grate seats where used (loading dock). Silicone shall be used to form seal.
6. Six (6) copper ground rods, 5/8" X 8', will be installed as specified in Drawings.
7. Electric service conductor wire shall be as specified in Electrical Drawing specifications, as will individual circuits.
8. A supplemental ground loop shall be of #6 solid bare copper wire.
9. To complete this Contract, the Subcontractor shall install all circuits in accordance with Drawings and then check and test same. Any problems encountered shall be corrected by the Subcontractor and all circuits shall be operable to the satisfaction of the Owner/Contractor before work is deemed complete.

DIVISION IV - PIPING AND MECHANICAL

This Contract is subject to the General Conditions of the Contract and the Subcontractor shall be bound by the same.

A. Scope of Work:

1. The work includes but is not necessarily limited to removal of tanks from present location; external tank cleaning and painting of designated tanks; installation of sump pump system and drain lines; modification and construction of catwalks; construction of pipe supports; installation of tank yard piping; connection of new tanks into existing valve manifold; resetting of refurbished tanks and installation of new tanks; and testing of all construction.
2. This Subcontractor is to coordinate his work with all other Subcontractors. He shall not impede the work of others or the completion of the project through delay in his division. All Subcontractors shall work in accordance with the phase schedule set forth in the Phase Diagram, Appendix A.
3. This Subcontractor shall cooperate with the Concrete Subcontractor and shall have tanks removed from the site in time not to slow the progress of the total project. He will not begin moving them back without certification from the Concrete Subcontractor which states that the concrete has been properly cured.
4. This Subcontractor shall furnish all labor and materials to complete his division of work with the exception of tanks, pumps, pipes, and valves or as specified by the Owner/Contractor.

Usable catwalk and stair material presently on site shall be used, with the Subcontractor supplying any additionally-required materials for completion of the design in accordance with Drawings UI 88001 M1 through M4. This Subcontractor shall also supply all gaskets, 1/8" thick, with type to be specified by Owner/Contractor. Miscellaneous fittings requested by the Subcontractor shall be furnished at his expense.

5. This Subcontractor shall work with the Concrete Subcontractor and shall indicate any required permanent anchors that are to be set in concrete.
6. All piping installations will be hydro-tested and approved by the Owner/Contractor before this Subcontractor's contract is termed complete. Process pumps will not be installed at this time.

Spools (2" pipe with bolted flanges) will be inserted into the pump positions; these spools are to be supplied by this Subcontractor. The test procedure will include pressuring the system to the pressure rating of the pipe used and will be maintained for 15 minutes. All tests will be witnessed by the Owner/Contractor's

Superintendent and/or Engineer. Gaskets of 1/8" thickness shall be used, type to be specified by Owner/Contractor.

7. The nature of the Owner/Contractor's daily business routine and its dependence upon critical use of tanked chemicals necessitates a flexible tank removal schedule. This Subcontractor must work with the Owner/Contractor on a tank-by-tank basis in both phases of tank movement. The Owner/Contractor will have all tanks emptied prior to removal, but not necessarily all at the same time. The Subcontractor will be required to obtain clearance for removal of each individual tank 48 hours prior to the actual move.

Some tanks will be refurbished by the Owner/Contractor and some will be replaced by new tanks. A similar procedure will be used in each of the replacement operations in that the Subcontractor must obtain clearance on a tank-by-tank basis 48 hours prior to placement of the tanks in their permanent location. Those tanks that are to be replaced by new tanks shall be relocated by this Subcontractor to an on-site location designated by the Owner/ Contractor's Superintendent.

Piping work will follow the tanks' final move. The catwalks will be installed, and heat tracing and insulation will be completed on designated lines; this will be followed by painting in accordance with the specifications.

Testing on all lines and installation will be performed under the Owner/Contractor's supervision.

B. Work Included:

1. This Subcontractor shall provide all labor for jobs specified in the scope of work for his division. The Owner/Contractor will supply tanks, pipe, valves, pumps, bolts, fittings, some catwalk and stairway material, and other specified items. The Subcontractor will supply pump spools, pipe supports, gaskets, additional catwalk and stairway material, sump pump mounting brackets, and metal for miscellaneous anchors and bracing materials. Items of miscellaneous nature requested by the Subcontractor and approved by the Owner/Contractor shall be furnished at Subcontractor's expense.
2. The Subcontractor shall remove and relocate the existing door situated at the northwest corner of the building; refer to Drawings, Piping Plan Sheet 1. The existing door will be reused, so all hardware is to be retained in good working order.

The resulting void will be filled with outside and inside metal panels which match existing materials. Bare metal shall be painted to match existing finish. The Subcontractor shall supply any additional material needed. Insulation shall be replaced to original specifications.

3. Generally speaking, the Owner/Contractor shall supply material used in the completion of this contract. In cases where an unforeseen

need arises, the Subcontractor is to first refer to the Owner/Contractor's warehouse supply; if materials are not available there, the Subcontractor shall supply the specified item at his expense.

4. This Subcontractor shall remove all tanks in Phase I in accordance with the guidelines set forth in item 1 above; the schedule to be followed is outlined in Appendix A. The Owner/Contractor will designate the temporary tank location to be utilized. Once the Concrete Subcontractor certifies that the concrete has been properly cured and the Owner/Contractor authorizes readiness, the tanks shall be moved to their permanent location. The minimum curing time for all concrete shall be seven (7) days.

Phase I piping will then commence and all inside connections to the existing manifold shall be completed.

Phase II tank removal, replacement, piping, and heat tracing will follow completion of Phase I. Catwalk construction, insulation of designated lines, and painting will be performed as the final step.

5. Installation of pipe insulation shall be performed by this Subcontractor. Heat tracing materials and supplies will be purchased and installed by the Electrical Subcontractor. The heat trace installation will undergo and pass testing supervised by the Owner/Contractor's Superintendent and/or Engineer prior to installation of the pipe insulation. Upon receipt of certification from the Electrical Subcontractor and the Owner/Contractor that heat tracing is proper, this Subcontractor shall complete the pipe insulation.
6. This Subcontractor shall provide pipe supports at no more than 6'-0" O.C. and closer if required by valves or ells.
7. This Subcontractor will move two drum racks, to be indicated by the Owner/Contractor, to an adjacent area before commencing with tank removal in Phase II. After final tank placement in Phase II, the same drum racks shall be returned to their original location. These racks will be emptied of drums by representatives of the Owner/Contractor prior to commencement of this portion of the contract.
8. This Subcontractor shall insulate lines 2 A & B; 10 A & B; 6 A & B; and 21 A & B from loading dock to the existing building wall. Insulation shall consist of 1" fiberglass, heavy density type, with aluminum cover and metal lagging.
9. This Subcontractor shall move all pipe in the existing tank farm to an area designated by the Owner/Contractor. Piping will be stored, cleaned, and reused or scrapped per the Owner/Contractor's instructions.
10. This Subcontractor shall remove the exhaust fan support stand and erect a temporary means which will keep the fan in operation during tank farm construction. After tanks and piping are in position, the support shall be made into a permanent structure.

11. This Subcontractor is to maintain the area of his work and the actions of his personnel so as not to impede the progress of the total job, other Subcontractors, or the daily business operations of Unichem International Inc. In instances of unusual occurrences, he shall follow instructions issued by the Owner/Contractor's Superintendent.

C. Materials:

1. Pipe support material and type to be approved by the Owner/Contractor's Superintendent.
2. Carbon steel pipe for alkaline lines supplied by this Subcontractor shall be of Schedule 40, #A-53; valves, #150, ball, or stainless steel with Teflon seats. CPVC piping will be of Schedule 80; CPVC valves and fittings will be rated at #150. For acid lines, stainless steel equipment shall all be of 316L.
3. Sump pump discharge system to be installed in accordance with Drawings and specifications indicated therein.
4. Vapor recovery units to be installed in accordance with Drawings and specifications indicated therein.
5. All anchors and bolts to be approved by the Owner/Contractor's Superintendent.
6. Pump spools will be made in accordance with specs set forth in item 2 above.
7. Catwalk and stairway materials shall conform to A.P.I. standards.
8. Pipe insulation shall be 1" fiberglass, heavy density type with aluminum cover and metal lagging; to be approved by Owner/Contractor.
9. Due to expansion and contraction of poly tanks, pipe and/or pump supports near the tank shall not be rigid. They shall be constructed for movement in accordance with specifications provided by the Owner/Contractor's Superintendent.
10. Paint to be used shall be supplied by this Subcontractor, as follows:
 - Brand: "Cactus"
 - Type: Coctepon, Primer #CP 204
 - Coctepon, White #CP 200
 - Coctepon, Black #CP 213

DIVISION V - TANK INSULATION

This Contract is subject to the General Conditions of the Contract and the Subcontractor shall be bound by the same.

A. Scope of Work:

1. The work includes but is not necessarily limited to preparation for and installation of insulation on four vertical tanks numbered 2, 6, 10, and 21.
2. This Subcontractor shall supply all labor and materials necessary to apply 2" of polyurethane chemical foam insulation to the above-mentioned tanks. He is to coordinate his work with the other Subcontractors. He will not impede the work of others or the completion of the project through delay in his division.
3. This Subcontractor shall apply white fire-retardant paint over the polyurethane foam in accordance with specifications set forth below.
4. All Subcontractors shall work in accordance with the phase schedule set forth in the Phase Diagram, Appendix A.

B. Work Included:

1. Preparation and application of 2" of polyurethane chemical foam insulation.
2. Work as may be ordered and specified by the Owner/Contractor.

C. Materials:

1. Thickness of 2".
2. Isofoam SS-1093 polyurethane chemical foam or equivalent.
3. Paint specifications:

White waterproof protective membrane acrylic elastomer tri-polymer coating -- Duraflex system. Two-coat system meeting fire rating UL 790, Class A requirement.

DIVISION VI - CONTRACTUAL DOCUMENTS

A. Bid Document

1. The Contractor shall submit bid on his letterhead in the following unaltered format:

TO: Unichem International Inc.
Attention: Wayne Price, Staff Engineer
707 North Leech
P.O. Box 1499
Hobbs, New Mexico 88240

I have received the documents entitled "Specifications and Interpretations for Water Side Tank Farm Modifications, Unichem International Inc., 707 North Leech, Hobbs, New Mexico, (AFE #88-12)" as well as Drawings UI-88001 C1-C2; UI-87001 E1-E3 and UI-88001 E1-E2; and UI-88001 M1-M4. I have examined the documents and the site thoroughly and submit the following bid:

In submitting this bid, I agree (1) to hold my bid open for thirty (30) days; (2) to accept the provisions of the Instructions to Bidders; (3) to enter into and execute a Contract, if awarded, on the basis of this bid, and to furnish guaranty/warranty bonds in accordance with articles of the General and Supplemental Conditions of the Contract; (4) to accomplish the work in accordance with the Contract Documents; and (5) to complete the work by the time stipulated in the Supplementary Conditions.

BASE BID #1: \$ _____ *

To include Dirt Work, Excavation and Concrete as set forth in Division II and Piping and Mechanical as set forth in Division IV.

*This figure shall also include work item bid for removal of dirt as set forth in Paragraph B, Section 1.

Per cubic yard bid shall also be stated herein:

Dirt removal at \$ _____ per cubic yard

BASE BID #2: \$ _____

To include Electrical Installations as set forth in Division III.

BASE BID #3: \$ _____

To include Tank Insulation as set forth in Division V.

TOTAL BID: \$ _____

(Bid Document Continuation...)

The undersigned bidder represents to Unichem International Inc. ("Owner/ Contractor") and to other bidders that his bid and the estimates on which it is based have been carefully checked and contain no errors and nothing has been omitted in determining the amount of the bid.

CONTRACTOR _____

Signed by: _____

Date Submitted: _____

Corporate Seal:

2. Unichem International Inc. reserves the right to reject any portion of said bid unless Contractor stipulates otherwise, in which case the total bid will be accepted or rejected.

B. PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we (1) _____, a (2) _____, hereinafter called "Principal" and (3) _____ of _____, State of _____, hereinafter called "Surety", are held and firmly bound unto (4) UNICHEM INTERNATIONAL INC., hereinafter called "Owner", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, personal representatives and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the ____ day of _____, 19____, a copy of which is hereto attached and made a part hereof for the construction of:

WATER SIDE TANK FARM MODIFICATIONS

UNICHEM FACILITY LOCATED IN HOBBS, NEW MEXICO

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any

Page Two

default, this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed as an original, this the _____ day of _____, 19____.

ATTEST:

Principal

Principal-Secretary

(SEAL)

By: _____ (s)

Address

Witness as to Principal

Address

Surety

ATTEST:

By: _____
Attorney-in-Fact

(Surety) Secretary

(SEAL)

Witness as to Surety

Address

Address

NOTE: Date of Bond must not be prior to date of contract.

- (1) Correct name of Contractor.
- (2) A corporation, a partnership, or an individual, as case may be.
- (3) Correct name of Surety.
- (4) Correct name of Owner.
- (5) If Contractor is Partnership, all partners should execute Bond.

C. PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we (1) _____, a (2) _____, hereinafter called "Principal" and (3) _____ of _____, State of _____, hereinafter called the "Surety", are held and firmly bound unto (4) UNICHEM INTERNATIONAL INC., hereinafter called "Owner", in the penal sum of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, personal representatives and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 19____, a copy of which is hereto attached and made a part hereof for the construction of:

WATER SIDE TANK FARM MODIFICATIONS
UNICHEM FACILITY LOCATED IN HOBBS, NEW MEXICO

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal, and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all labor performed in such work whether by subcontractor or otherwise, then this obligation shall

be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed as an original, this the _____ day of _____, 19____.

ATTEST:

Principal

Principal-Secretary

(SEAL)

Page Three

By: _____ (s)

Address

Witness as to Principal

Address

Surety

ATTEST:

By: _____
Attorney-in-Fact

(Surety) Secretary

(SEAL)

Witness as to Surety

Address

Address

NOTE: Date of Bond must not be prior to date of contract.

- (1) Correct name of Contractor.
- (2) A corporation, a partnership, or an individual, as case may be.
- (3) Correct name of Surety.
- (4) Correct name of Owner.
- (5) If Contractor is Partnership, all partners should execute Bond.

D. CONTRACT

THIS AGREEMENT, made this _____ day of _____, 1988, by and between (1) Unichem International Inc. acting herein through (2) Wayne Price, Staff Engineer, hereinafter called "Owner" and (3) _____, a company doing business in the City of _____, County of _____, and State of _____, hereinafter called "Contractor".

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

WATER SIDE TANK FARM MODIFICATIONS

UNICHEM FACILITY LOCATED IN HOBBS, NEW MEXICO

hereinafter called the "Project", for the sum of _____ and all extra work in connection therewith, under the terms and stated in the General and Special Conditions of the Contract; and at his, its, or their own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, Supplemental General Conditions and Special Conditions of the Contract, the Plans, which include all maps, plats, blueprints, and other drawings and printed or written explanatory matter thereof, the Specifications and Contract Documents therefor as prepared by Wayne Price performing subordinate engineer-

ing duties for Unichem International Inc., hereinafter entitled the "Engineer".

The Contractor hereby agrees to commence work under this Contract on or before a date to be specified in written "Notice to Proceed" of the Owner and to fully complete project within sixty (60) consecutive calendar days thereafter. The Contractor further agrees to pay, as liquidated damages, the sum of \$100.00 for each consecutive calendar day thereafter.

The Owner agrees to pay the Contractor in current funds for the performance of the Contract, subject to any additions and deductions, as provided in the General and Special Conditions of the Contract. Payment in full will be made within _____ days of agreed satisfactory completion of the Work.

IN WITNESS WHEREOF, the parties to these presents have executed this Contract in two (2) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

(SEAL)

(Owner)

ATTEST:

(Secretary)

By: _____

(Witness)

(Address)

(SEAL)

(Contractor)

ATTEST:

(Secretary)

By: _____

(Witness)

(Address)

- (1) Corporate name of Owner.
- (2) Title of authorized official.
- (3) Secretary of the Owner should attest. If Contractor is Corporation, Secretary should attest. Give proper title for each person executing contract.

Approved as to form:

Representative of Owner

Wayne Price, Staff Engineer; or
Wesley Johnston, Construction Manager

Total Contract Price \$

Date of Completion: On or before 60 days from start date set forth in
Official Notice to Proceed

Further signatures, if necessary:

APPENDIX

APPENDIX A - PHASE DIAGRAM AND TANK DETAIL

Phase I

A. Remove Tanks: F, Q, G, P, H, O, I, L,
N, K, J, M, A, V, X or
all tanks, pipe, and equip-
ment from designated area

B. Replace Tanks:

10	-	New Poly
11	-	Plastic from Existing 3-B
12	-	Formerly I
13	-	New Poly
14	-	Formerly M
15	-	Formerly G
16	-	New Poly
17	-	New Poly
18	-	Plastic (now on site)
19	-	Formerly Vertical
20	-	New Poly
21	-	New Poly

And other equipment as set forth in Drawings

Phase II

A. Remove Tanks: B, C, D, E, T, U, S, R, two
small tanks, heater, pipe, and
equipment from designated area

B. Replace Tanks:

1	-	New Carbon Steel
2	-	New Carbon Steel
3	-	New Stainless Steel
4	-	Green Plastic from Area 3
5	-	Formerly Q
6	-	Formerly F
7	-	Poly (now on site)
8	-	Formerly H
9	-	Formerly D1

And other equipment as set forth in Drawings

APPENDIX A - PHASE DIAGRAM

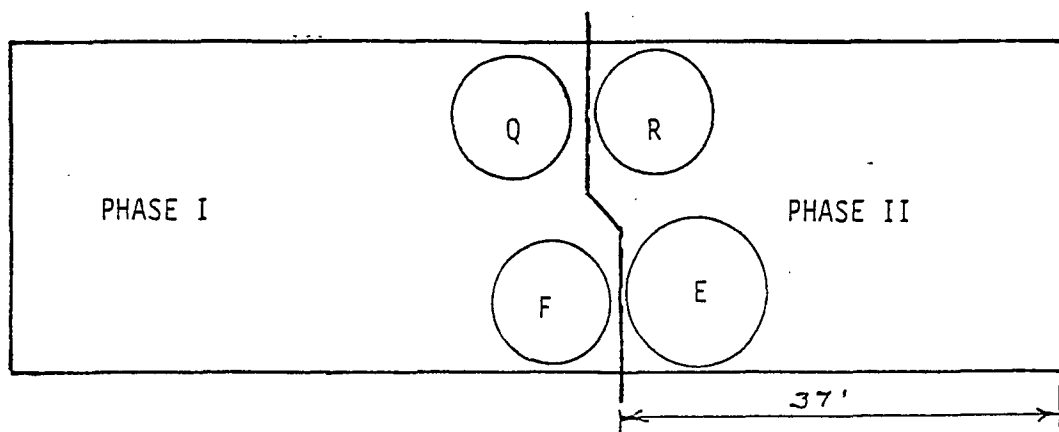


FIG. 1 CURRENT PLAN

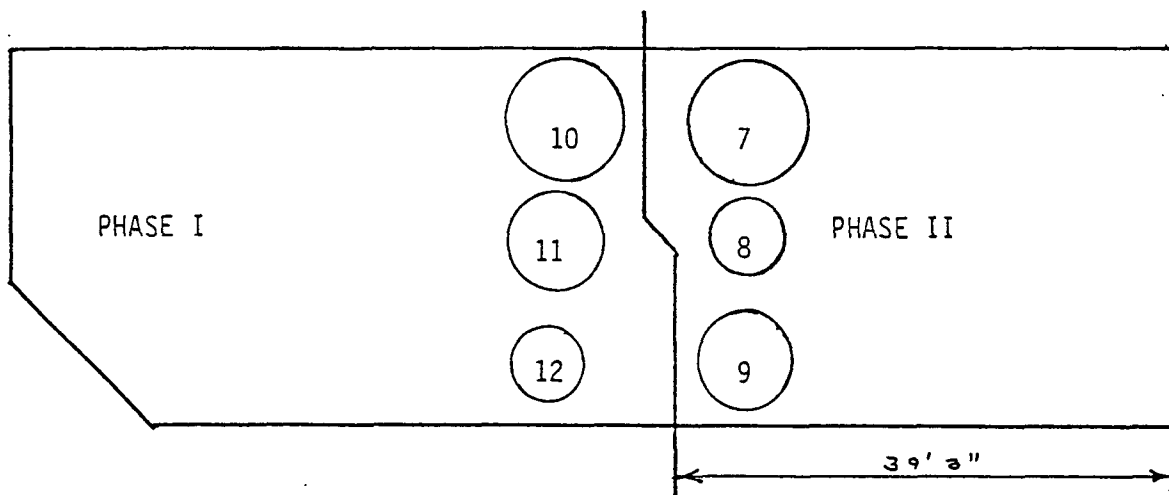
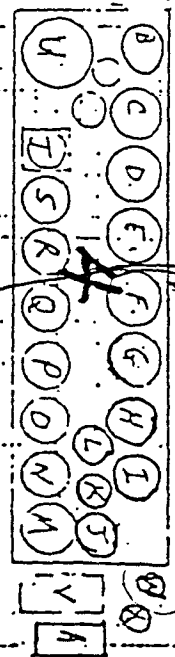
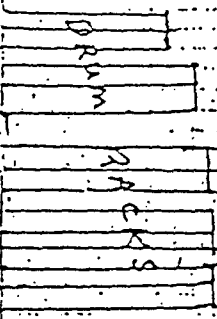
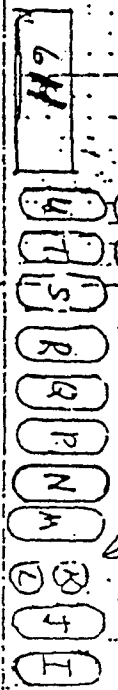
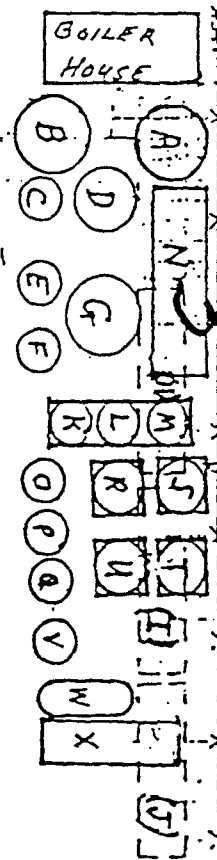
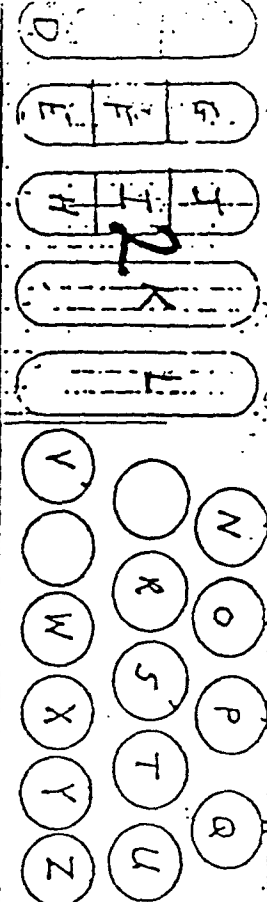


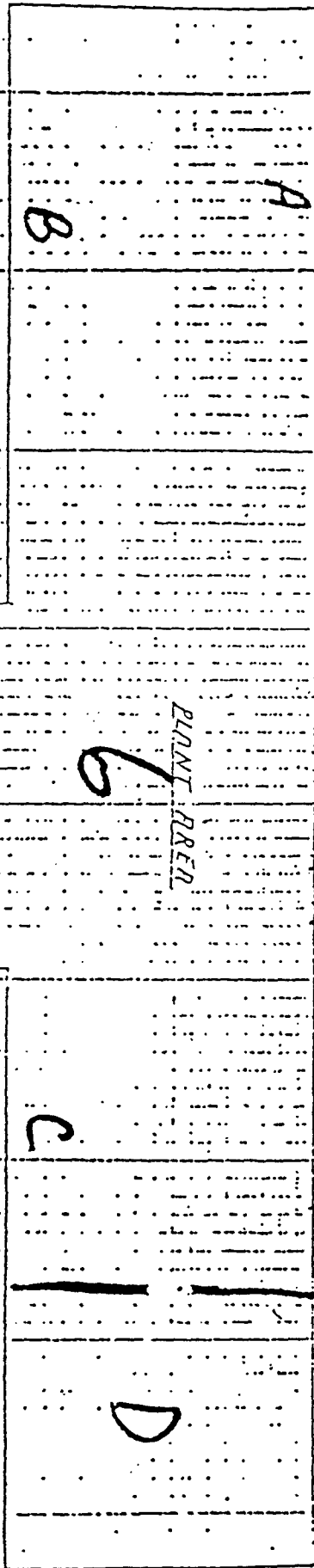
FIG. 2 NEW PLAN





OIL SOLUBLE TANK BATTERY

WATER SOLUBLE TANK BATTERY



7

E

F

G

A

7

B

PLANT AREA

BOILER HOUSE

ADDENDUM #1

DIVISION I - GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS

Subparagraph B, "Supplemental General Conditions", Article 13 entitled "Safety" shall be added to include paragraph f as follows:

f. Safety and Health

The safety and health of personnel, property, and the public is of paramount importance in the prosecution of the work pursuant to this Contract Agreement. The Contractor and Subcontractor(s) shall be fully and solely responsible for conducting all operations under this Contract at all times in such a manner as to avoid the risk of bodily harm to persons and damage to property. The Contractor shall continually and diligently inspect all work, materials, and equipment to discover any conditions which might involve such risks and shall be solely responsible for discovery and correction of such conditions. As reinforcement and in furtherance of overall safety and health measures to be observed by the Contractor and Subcontractor(s) (and not by way of limitation), the following special safety and health rules shall be followed:

1. To the extent that contact may be made with hazardous chemicals or contaminated soils, the Contractor shall comply with all requirements of the U.S. Occupational Safety and Health Administration (OSHA), as well as similar state and/or local agencies which apply to potential exposure to hazardous materials, to assure that the health and safety of his employees are protected in accordance with those requirements.

It is understood that the OSHA requirements, to the extent that they are applicable to the work contemplated by this Contract Agreement, now appear at Title 29 of the Code of Federal Regulations, Section 1910.1200. During the course of this Contract Agreement, the Contractor and Subcontractor(s) shall also comply with any supplements, amendments, or re-issues of said regulations.

2. As provided in the OSHA regulations described above, the Contractor and Subcontractor(s) shall:
 - (a) Review all Material Safety Data Sheets of hazardous materials provided by Unichem International and conduct and/or participate in employee training as required by 29CFR1910.1200 and as required by the Unichem International project safety and health procedures for potential exposure and contact with such materials.

ADDENDUM #1 (Continuation...)

- (b) Use all safety appliances and protective clothing requisite and necessary for working around chemicals and contaminated materials on the project site.

DIVISION II - DIRT WORK, EXCAVATION AND CONCRETE

Subparagraph B, "Work Included", shall be addended to include the following:

14. It shall be the responsibility of this Subcontractor to fully comply with the following guidelines as set forth in the American Concrete Institute Manual:

Basic Rules for Cold Weather Concreting:

Before any concrete is ordered, it is most important to make careful plans for receiving, placing, finishing, protection, and curing. All equipment and materials needed should be available. Provision should be made for possible equipment breakdowns on the job. An ample number of men should be on hand to do the work, and the supervisor should keep in mind that cold weather reduces human efficiency. It may be necessary to add one or more men to a crew to accomplish the work quickly in extremely cold weather.

The preplanning should include provision to thaw the subbase, if frozen, and to remove ice and snow from the area of placing. Concrete should never be placed in frozen forms, around cold reinforcing steel, or on frozen ground. Contact with the cold can freeze the concrete, and spring thaws of the subbase are apt to heave and shatter the concrete. The subbase can be thawed with steam, by building fires on the surface of the ground, or by applying CaCl_2 . Care should be exercised to make sure that there is no opportunity for the subbase to refreeze after it has been thawed. Forms should be warmed immediately prior to placing, and this is especially important when using metal forms.

Some provision should be made for providing proper curing temperature for the concrete. Generally, this is done in one of two ways: (1) insulation is provided to maintain the heat of hydration within the concrete by using straw, black polyethylene, and the like, or (2) a temporary structure is built around the forms and heat is provided to the structure.

The design of the concrete mix can be altered to obtain high early strength and quick-setting properties. [...However, this Subcontractor is required to obtain approval from the Owner/Contractor's Engineer for any such alterations to the concrete mix.] It is often a good practice to heat the water or the aggregate, or

ADDENDUM #1 (Continuation...)

both so that the concrete temperature, when placed, is between 55 and 65' F if the subgrade and air temperatures are below 50' F. Generally, it is wise to avoid using lean mixes in cold weather.

DIVISION III - ELECTRICAL INSTALLATION

Subparagraph A, "Scope of Work", shall be addended to include work item 5 as follows:

5. This Subcontractor shall provide service to Pump-7 at Tank 7, CWT 100; Pump 7 to be installed by Mechanical Subcontractor. The Electrical Subcontractor shall provide electrical service from oil side tank farm hot water panel and control circuits from water side blend panel in plant building. Following pump installation, this Subcontractor shall complete all necessary connections. Testing of all pump functions shall be performed under the direction of the Owner/Contractor's Superintendent and all functions must be proven operable before completion of this Contract.

Modifications and completions of all equipment and materials supplied by the Owner/Contractor shall be the responsibility of this Subcontractor. These final steps will be as set forth by the Owner/Contractor.

This Subcontractor shall provide 1/2" conduit for telephone service to the loading dock; work to be performed in accordance with Drawings. An adequate stub shall be provided at the dock and carried inside the dike wall to a point inside the plant building as designated by the Owner/Contractor's Superintendent. Telephone installation equipment, wiring, and hookup shall be performed by the local telephone company. The conduit installation described herein shall be considered part of the Phase II operations.

DIVISION IV - PIPING AND MECHANICAL

Subparagraph A, "Scope of Work", shall be addended to include work item 8 as follows:

8. This Subcontractor shall install Pump-7 at Tank 7. The pump will be furnished by the Owner/Contractor and wired by the Electrical Subcontractor. The Mechanical Subcontractor shall provide an adequate "stool type" support which is not to be anchored to the concrete. A spool will not be used at this tank. The installation will be tested in cooperation with the Electrical Subcontractor and under the supervision of the Owner/Contractor's Superintendent. The pump shall be made fully operable before the completion of the Contract.

ADDENDUM #1 (Continuation...)

As a part of Phase I, this Subcontractor shall install one 2" carbon steel load line from the chromate area inside the plant area to the loading dock. Also, parallel to the load line, a 2" carbon steel flush line will return into the building to a sewer entry port--location to be designated by the Owner/Contractor. Both lines shall be equipped as specified in Drawings.