

BLOCK 701.39 LOT 12 ADDRESS (SITE) Chambers Bridge Road. PERMIT NO. 2874-93

RECEIVED

SEP 23 1993



CONSTRUCTION PERMIT APPLICATION

DIV. OF PUBLIC WORKS Application Completes: Sections I, II, III (optional), IV, VI and VII

I. IDENTIFICATION

1. Proposed Work-site at: Chambers Bridge Road. #346

2. Name of Owner in Fee: Township of Brick Tel. 908, 262-1057
Address Chambers Bridge Road, Brick, N.J. 08724
street municipality zip code

3. Ownership in Fee: Public X Private _____

4. Principal Contractor: Charles J. Hoffmann Inc. Tel. 908, 776-7979
Address 209 W. SYLVANIA AVE. Neptune City N.J. 07753
License No. OR, if new home, Builder Reg. No. 1300881 Exp. Date 5-95
Federal Emp. No. 22-1842273 Social Security No. _____

5. Architect or Engineer TARIG M.S. Siddiqui P.E. Tel. 908, 458-7000
Address 1551 Hwy 88 BRICK, N.J. 08724

6. Responsible Person ARTHUR H. HOFFMANN Tel. 908, 776-7979
In Charge of Work

V. FEE SUMMARY (for office use only)

		Update	Update
1. Building	\$		
2. Electrical			
3. Plumbing			
4. Fire Protection	<u>184 -</u>		
5. Other			
6. Subtotal	\$		
7. Less 20% for State Plan Review			
8. Subtotal	\$		
9. DCA Training Fee			
10. Subtotal	\$		
11. Cert. of Occupancy			
12. Other			
13. TOTAL	\$		

VI. BUILDING/SITE CHARACTERISTICS

	(office use only)
1. Number of Stories	
2. Height of Structure	_____ ft.
3. Area—Largest Floor	_____ sq. ft.
4. Building Area—All Floors	_____ sq. ft.
5. Volume of Structure	_____ cu. ft.
6. Construction Classification	
7. Total Land Area Disturbed	_____ sq. ft.
8. Flood Hazard Zone	
9. Base Flood Elevation	_____ ft.
10. Wetlands yes _____ sq. ft. no _____	
11. Fire Grading	
12. Max. Live Load	
13. Max. Occupancy Load	

II. PROPOSED WORK

1. ☐ Minor Work (single trade)
2. ☐ Small Job (\$5,000 and no prior approvals)
3. ☐ New Building
4. ☐ Addition
5. ☐ Alteration
6. ☒ Fire Protection
7. ☐ Plumbing
8. ☐ Electrical
9. ☐ Asbestos Abatement
10. ☐ Demolition

Est. Cost

fueling facility

OPTIONAL (for office use only)

Plans Rec'd By	Date Rec'd	Rejection Date	Approval Date	Re-viewer	Resubmission Dates Approval	Rejection	Re-viewer
			<u>12/8/93</u>	<u>AK</u>			
			<u>12/8/93</u>	<u>AK</u>			
<u>CNG</u>	<u>9/21/93</u>	<u>CNA</u>					

TOTAL COSTS

III. DO YOU WANT: (optional) 1. ☐ Partial Releases 2. ☐ Prototype Processing

IV. DOES OR WILL YOUR BUILDING CONTAIN ANY OF THE FOLLOWING?

1. ☐ Elevators/Escalators/Lifts/ Dumbwaiters/Moving Walks	3. ☐ Pressure Vessels	6. ☐ Hazardous Uses/Places of Assembly
2. ☐ High Pressure Boilers	4. ☐ Refrigeration Systems	7. ☐ Sprinklers
	5. ☐ Cross-Connections/Backflow Preventers	8. ☐ Smoke Control Systems in Open Wells
		9. ☐ Underground Storage Tanks

VII. DESCRIPTION OF BUILDING USE

A. RESIDENTIAL

1. ☐ Hotels (R-1)
2. ☐ Multi-Family (R-2)
3. ☐ Two-Family (R-3) BOCA
4. ☐ Two-Family (R-4) CABO
5. ☐ One-Family (R-3) BOCA
6. ☐ One-Family (R-4) CABO

No of dwelling units:
Before Construction _____
After Construction _____
Net gain or loss _____

B. NON-RESIDENTIAL

1. State Specific Use:
High School
2. Use Group:
3. Change in Use Group.
Indicate Former:

CERTIFICATION IN LIEU OF OATH

I. OWNER SECTION (to be completed if the applicant is the owner in fee)

I hereby certify that I am the owner in fee of the property listed on Page 1.

Mark the following applicable boxes:

- A. () I further certify that a new home (private residence) will be constructed on this property for my own use and occupancy. This dwelling is to be occupied by myself and is not to be used for any purpose other than single family residential use. I attest that all construction, plumbing, or electrical work will be done, in whole or in part, by me or by subcontractors under my supervision, in accordance with all applicable laws; and, I further acknowledge that said new home is not covered under the New Home Warranty and Builders Registration Act (N.J.S.A. 46:3B-1 et seq.) and that such fact shall be disclosed to any person purchasing this property within ten years of the date of issuance of a certificate of occupancy.

I UNDERSTAND THAT IN MARKING BOX A, I ACKNOWLEDGE THAT I AM ASSUMING RESPONSIBILITY FOR THE WORK DONE ON SAID PROPERTY, THE CONDITION OF THE PROPERTY PRIOR TO, DURING, AND AFTER ANY WORK PERFORMED, AND FOR THE PERFORMANCE OF THE SUBCONTRACTORS I HIRE, EMPLOY, OR OTHERWISE CONTRACT OR WITH WHOM I MAKE AGREEMENTS TO PERFORM WORK. I AM VOLUNTARILY AND KNOWINGLY ASSUMING THIS RESPONSIBILITY.

- B. () I further certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-2.15(e)1.vii:

I personally prepared the plans submitted for: 1) the new home referred to in A.; or, 2) an addition, alteration, renovation, or repair to an existing single family residence owned and occupied by myself and located on the property listed on Page 1; or, 3) a new structure that will be physically separate from, but that will be deemed part of, an existing single family residence that is owned and occupied by myself and located on the property listed on Page 1.

- C. () I further certify that I will perform or supervise the following work:

C.1. () Building C.2. () Fire Protection

I further certify that I will perform the following work:

C.3. () Electrical C.4. () Plumbing

- D. () I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I understand that if any of the above statements are willfully false, I am subject to punishment.

Signature _____ Date _____

II. AGENT SECTION

(to be completed if the applicant is not the owner in fee)

I hereby certify the following as required by the New Jersey Uniform Construction Code, N.J.A.C. 5:32-2.15(d): the proposed work is authorized by the owner in fee; and I have been authorized by the owner in fee to make this application as his agent.

I further certify the following as required by the Uniform Construction Code, N.J.A.C. 5:23-2.15(a)5: All required State, county, and local prior approvals have been given, including such certification as the construction official may require.

I agree to advise all contractors on this project that they are required to be registered with the New Jersey Division of Taxation and to comply with all New Jersey tax laws.

I understand that if any of the above statements are willfully false, I am subject to punishment.

(X) Check if contractor.

Agent Name

Charles J. Hoffmann, Inc.

Address

209 W. SYLVANIA AVE

Neptune City, N.J. 07053

Telephone

(908) 445-4949

Signature

Charles J. Hoffmann

Date

9-22-93

OFFICE DATE RECEIVED: _____

COMMENTS

IMPORTANT
A.H.B.T. - EXEMPT

VIII. PRIOR APPROVALS CHECKLIST (office use only)	LOCAL APPROVAL		COUNTY APPROVAL		REGIONAL APPROVAL		STATE APPROVAL	
	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date	Prelimin. Initial	Final Date
☐ Planning Board								
☐ Zoning Board								
☐ Sewer Authority								
☐ Water Authority								
☐ Fire Department								
☐ Police Department								
☐ Health Department								
☐ Soil Conservation								
☐ N.J. Dept. of Community Affairs								
☐ N.J. Department of Transportation								
☐ N.J. Dept. of Environmental Protect.								
☐ Utility Dig No.								
☐ Other								
☐								
☐								

IX. SUBCODES AND SPECIAL REGULATIONS APPLICABLE (office use only—optional)

Name of Code & Edition	Name of Code & Edition	Other
Building _____	Energy _____	
Electrical _____	Barrier Free _____	
Plumbing _____	Flood Hazard _____	
Fire Protection _____	As Built Elevation Cert. _____	
Mechanical _____	Other _____	

X. CERTIFICATES ISSUED (office use only)

DATE EXPIRED

☐ Temporary Certificate of Occupancy	No. _____
☐ Temporary Certificate of Occupancy	No. _____
☐ Continued Certificate of Occupancy	No. _____
☐ Certificate of Occupancy	No. _____
☐ Certificate of Approval	No. _____
☐ None	



CONSTRUCTION PERMIT

Date Issued 12-9-93
Control #
Permit # 2874-93

IDENTIFICATION Block 701.39 Lot 12

Work Site Location 346 Chambers Bridge Rd. Contractor Charles J. Hoffman, Inc.

Owner in Fee Trust of Bonick
Address same

Address _____

Tele. (____) _____

Lic. No. or Bldrs. Reg. No. _____ Exp. Date _____

Federal Emp. No. _____

or Social Security No. _____

is hereby granted permission to perform the following work:

☐ BUILDING ☐ PLUMBING ☐ OTHER _____
☐ ELECTRICAL ☐ FIRE PROTECTION

DESCRIPTION OF WORK:

fuel facility at High School

NOTE: If construction does not commence within one (1) year of date of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$ _____

U.C.C. Form F-170A

A. J. Lipp
CONSTRUCTION OFFICIAL

PAYMENTS (Office Use Only)

Building _____

Plumbing _____

Electrical _____

Fire Protection int

Other _____

Other _____

DCA Training Fee int

Cert. of Occ. int

Other _____

Total _____

Check No. _____

Cash _____

Collected By: _____



Date Received
Date Issued 12-9-93
Control #
Permit # 2874-93

A. IDENTIFICATION—APPLICANT: COMPLETE ALL APPLICABLE INFORMATION, WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000.

Block 701.39
Work Site Location Chambers Bend Rd.
Owner in Fee Township of Bend
Address Chambers Bend Rd.
Telephone 908-262-1089
Contractor Chambers Bend Rd.
Address 3090 S. Chambers Ave.
Telephone 908-262-1089
E.C. No. or Bids. Reg. No. 1300831
Federal Emp. No. 22-1842273 or Social Security No.

JOB SUMMARY (Office Use Only)		PLAN REVIEW		Date		Initial		INSPECTIONS		Type:		Failure		Failure		Approval		Initial	
☒	No Plans Req.																		
☒	All																		
☐	Footing																		
☐	Foundation																		
☐	Frame																		
☐	Other																		
☐	Joint Plan Review Required:																		
☐	Elec. ☐ Plumb. ☐ Fire																		
☐	SUBCODE APPROVAL																		
☐	CO ☐ CCO ☐ CA																		
☐	Date:																		
☐	Approved By:																		

B. BUILDING CHARACTERISTICS

Use Group Present Proposed
Constr. Class Present Proposed
No. of Stories
Height of Structure Ft.
Area—Largest Floor Sq. Ft.
Total Bldg. Area/All Floors Sq. Ft.
Volume of Structure Cu. Ft.
Total Land Area Disturbed Sq. Ft.

Est. Cost of Bldg. Work:
1. New Bldg. \$
2. Alteration \$
3. Total (1+2) \$

C. CERTIFICATION IN LIEU OF OATH

I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

Signature

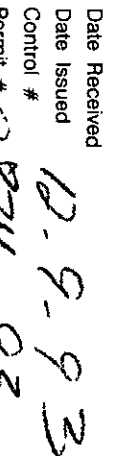
D. TECHNICAL SITE DATA

DESCRIPTION OF WORK

To see Plans Prepared by
Bent Utilities
Engineers Theing M.S. Sadding, P.E.
C.O., I.L. # 26820

TYPE OF WORK:		(Office Use Only)	
☐	New Building		
☐	Addition		
☐	Alteration		
☐	Roofing		
☐	Siding		
☐	Other		
☐	Demolition		
☐	Miscellaneous		
☐	Fence		
☐	Sign		
☐	Pool		
☐	Elevator		
☐	Asbestos Abatement		
☐	Other		

Administrative Surcharge \$
Paid ☐ Check # Minimum Fee \$
Collected by: TOTAL FEE \$



D. TECHNICAL SITE DATA

Description of Work

Method of Valve Supervision

Proprietary Supervision

Flammable Liquid Storage Tanks

L.P.G. Storage Tanks

L.N.G. Storage Tanks

Number

Dry Sprinkler Heads

Heat D

Kitchen Hood Exhaust Systems

Pre-Engineered Systems

Fluoride suppression

City Chemical

Case of Oil Field Application

○ ○ ○

Paid 1, Check #

Collected by:

2 Canary = Office Copy
4 Gold = Applicant Copy

Administrative Surcharge

DCA Training Fee

3 Print = Unicef copy

4 said = Applicant copy

CONTRACT DOCUMENTS FOR:

VEHICLE REFUELING FACILITY

TOWNSHIP OF BRICK
OCEAN COUNTY, NEW JERSEY

CONTRACT NO. 93012

JUNE 1993

The Brick Township Municipal
Utilities Authority
1551 Highway 88 West
Brick, New Jersey 08724
(908) 458-7000

Tariq M.S. Siddiqui

Tariq M.S. Siddiqui
N.J. P.E. #26230

2874-93

NOTICE TO BIDDERS

NOTICE IS HEREBY GIVEN THAT RICHARD F. MACDONALD, PURCHASING AGENT OF THE TOWNSHIP OF BRICK, COUNTY OF OCEAN AND STATE OF NEW JERSEY, WILL ON WEDNESDAY, JULY 21, 1993 AT 10:00 A.M., IN THE TOWNSHIP COUNCIL CHAMBERS, TOWN HALL, 401 CHAMBERS BRIDGE ROAD, BRICK, N.J. RECEIVE BIDS FOR THE FOLLOWING:

VEHICLE REFUELING FACILITY

SPECIFICATIONS OR ANY ADDITIONAL INFORMATION MAY BE OBTAINED AT THE OFFICE OF PURCHASING AND CONTRACTING, BRICK TOWNSHIP MUNICIPAL COMPLEX, 401 CHAMBERS BRIDGE ROAD BRICK N.J., 08723 DURING REGULAR BUSINESS HOURS 8:30 A.M. TO 4:30 P.M. MONDAY THRU FRIDAY, EXCLUDING HOLIDAYS FOR A FEE OF \$50.00.

BID MUST BE ACCOMPANIED BY A BID BOND, CASHIER'S CHECK OR CERTIFIED CHECK FOR TEN PERCENT (10%) OF THE AMOUNT OF THE BID NOT TO EXCEED \$20,000.00. IN ADDITION, THE SUCCESSFUL BIDDER SHALL BE REQUIRED TO POST A PERFORMANCE BOND IN THE FULL AMOUNT OF THE BID. CERTIFIED AND CASHIER'S CHECKS WILL BE ACCEPTABLE. SAID AMOUNT WILL NOT BE RETURNED TO THE VENDOR UNTIL SUCCESSFUL COMPLETION OF THE CONTRACT.

THE TOWNSHIP OF BRICK RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS IN WHOLE OR IN PART AND ALSO TO WAIVE ANY INFORMALITIES IN ANY BID OR BIDS RECEIVED.

REQUIRED BIDDER INFORMATION CAN BE FOUND IN THE BID DOCUMENTS.

BIDS MUST BE MADE ON THE BID FORM PREPARED BY THE TOWNSHIP OF BRICK IN THE MANNER DESIGNATED THEREIN AND REQUIRED BY THE SPECIFICATIONS, MUST BE IN SEALED ENVELOPES BEARING THE NAME AND ADDRESS OF THE BIDDER ON THE OUTSIDE AND ALSO THE REFERENCE TO THE PARTICULAR WORK BID UPON. SAID BIDS SHALL BE ADDRESSED TO THE TOWNSHIP OF BRICK, FRANCIS E. SMITH, TOWNSHIP CLERK, 401 CHAMBERS BRIDGE ROAD, BRICK, N.J. 08723.

BIDDERS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF P.L. 1975, c. 127 (NJAC 1727).

THE SUCCESSFUL BIDDER SHALL BE REQUIRED TO COMPLY WITH THE PROVISIONS OF THE NEW JERSEY PREVAILING WAGE ACT, CHAPTER 150 OF THE LAWS OF 1963, EFFECTIVE JANUARY 1, 1964.

BY ORDER OF

FRANCIS E. SMITH, TOWNSHIP CLERK

CONTENTS

<u>SECTION</u>		<u>PAGE</u>
<u>INSTRUCTIONS TO BIDDERS</u>		
1.0	CONTRACT DOCUMENTS	1
2.0	EXAMINATION	1
3.0	QUESTIONS	1
4.0	OMISSIONS AND DISCREPANCIES	2
5.0	QUALIFICATIONS OF BIDDERS	2
6.0	COMPARISON OF BIDS	2
7.0	BID SUBMISSION	2
8.0	BIDDER'S WARRANTY	2
9.0	BIDS	3
10.0	INFORMAL BIDS	3
11.0	TIME TO AWARD CONTRACT	3
12.0	WITHDRAWAL OF BIDS	3
13.0	OBLIGATION OF BIDDERS	4
14.0	LOWEST QUALIFIED BIDDER	4
15.0	BID SECURITY/BID DEPOSIT	4
16.0	AGREEMENT OF SURETY	5
17.0	RIGHT TO REJECT BIDS	5
18.0	BONDS	5
19.0	EXECUTION OF CONTRACT	6
20.0	DAMAGES	6
21.0	INSURANCE CERTIFICATES AND POLICIES	6
22.0	POWER OF ATTORNEY	6
23.0	NON-COLLUSION AFFIDAVIT	6

24.0	CONDITIONS OF WORK	7
25.0	MATERIALS	7
26.0	SUBSTITUTION	7
27.0	TIME FOR COMPLETION	8
28.0	LIQUIDATED DAMAGES	8
29.0	INFORMATION NOT GUARANTEED	8
30.0	SALES AND USE TAXES	8
31.0	BID ITEM BREAKDOWN	8
32.0	STOCKHOLDER DISCLOSURE STATEMENT	8
33.0	AFFIRMATIVE ACTION REQUIREMENTS	9

BID FORMS

BID FORM	1
BID BOND	5
CONTRACTOR'S EXPERIENCE STATEMENT	7
AGREEMENT OF SURETY	8
NON-COLLUSION AFFIDAVIT	9
LIST OF STOCKHOLDERS	10
LIST OF SUBCONTRACTORS	11

AGREEMENT

AGREEMENT	1
PERFORMANCE BOND	7
LABOR & MATERIAL PAYMENT BOND	10
MAINTENANCE BOND	14
CONTRACTOR'S AFFIDAVIT	17
CONTRACTOR'S RELEASE	19
STATEMENT OF SURETY COMPANY	21

GENERAL CONDITIONS

1.0	GENERAL	1
2.0	DEFINITIONS	1
3.0	CORRELATION AND INTENT OF CONTRACT DOCUMENTS	3
3.1	Intent	3
3.2	Correlation of Documents	4
3.3	Application of Special Requirements	4
3.4	Discrepancies, Errors and Omissions	4
3.5	Additional Instructions and Detailed Drawings	5
3.6	Compliance with Laws	5
3.7	Provisions Required by Law Deemed Inserted	6
4.0	RESPONSIBILITIES AND OBLIGATIONS OF CONTRACTOR	6
4.1	General	6
4.2	Separate Contracts	7
4.3	Mutual Responsibility of Contractors	7
4.4	Subcontracting	7
4.5	Protection of Work and Property	8
4.6	Indemnity	9
4.7	Non-Interference with and Protection of Public	9
4.8	Supervision of Work	9
4.9	Assignment	10
4.10	Labor Provisions	10
4.11	Night and Sunday Work	10
4.12	Wage Rates	10
4.13	Employ Sufficient Labor and Equipment	11
4.14	Access to Work	12
4.15	Examination of the Work	12
4.16	Unacceptable Work	13
4.17	Mistakes of Contractor	13
4.18	Facilities and Utilities	13
4.19	Prices for Work	14
4.20	Suspension of Work	14
4.21	Delays and Extension of Time	14
4.22	Emergency Services to Correct Hazardous Conditions	14
4.23	Private and Public Property	15
4.24	Time for Completion and Liquidated Damages	16
4.25	Access to Records	18

5.0	RESPONSIBILITIES AND OBLIGATIONS OF THE OWNER	19
5.1	Land of Owner, Use of, by Contractor	19
5.2	Owner's Right to Take Over the Work	19
5.3	Right of Occupancy	20
5.4	Permits	21
6.0	AUTHORITY OF THE ENGINEER	21
6.1	Engineer's Status During Construction	21
6.2	Engineer's Interpretations and Decisions	22
7.0	CONDUCT OF THE WORK	22
7.1	Quantities of Estimate	22
7.2	Negotiations of Contract Amendments, Change Orders and Extra Work	22
7.3	Extension of Time	26
7.4	Changes Not to Affect Bonds	26
7.5	Claims for Extra Cost	27
7.6	Additional or Substitute Bond	27
7.7	Work to Conform	27
7.8	Record Drawings	28
8.0	FINAL COMPLETION AND PAYMENTS	28
8.1	Progress Schedule	28
8.2	Progress Estimates and Payments	28
8.3	Progress Payments	29
8.4	Payments Withheld	30
8.5	Measurement of Quantities	31
8.6	Substantial Completion	31
8.7	Final Completion and Final Payment	31
8.8	Liens	32
8.9	Acceptance of Final Payment Constitutes Release	32
9.0	MISCELLANEOUS	33
9.1	Notice and Service Thereof	33
9.2	Taxes	33
9.3	Guarantee	33
9.4	Waivers	34
9.5	Patents	34
9.6	Contract Documents	35
9.7	Contractor's Warranty of Title	35
10.0	PREVAILING WAGE RATES	35

DIVISION 1 - SUPPLEMENTARY CONDITIONS

1.01	SUMMARY OF WORK	1
1.02	ABBREVIATIONS	3
1.03	PROJECT ADMINISTRATION	4
1.03.01	Preconstruction Conference	4
1.03.02	Project Meetings	5
1.03.03	Job Site Administration	6
1.03.04	Dimensioning Responsibilities	7
1.03.05	Construction Layout	7
1.03.06	Project Correspondence	8
1.04	SUBMITTALS	8
1.04.01	Notice to Proceed	8
1.04.02	Schedules	8
1.04.03	Certificates of Insurance	8
1.04.04	Samples	11
1.04.05	Shop Drawings	12
1.04.06	Notarized Certification of Compliance	14
1.04.07	Cost Breakdown for Lump Sum Bids	14
1.04.08	Progress Photographs	14
1.04.09	Operations and Maintenance Instructions	15
1.04.10	Operations and Maintenance Binders	16
1.04.11	Maintenance Check Lists	16
1.04.12	Substitutes or "Or Equivalent" Items	17
1.05	TECHNICAL	18
1.05.01	Equipment Foundations	18
1.05.02	OMITTED	18
1.05.03	Electrical Work Other Than Division 16	18
1.05.04	Panels	19
1.05.05	Concrete and Masonry Inserts and Openings	19
1.05.06	OMITTED	21
1.05.07	Welding	21
1.05.08	Bolts, Anchor Bolts, Washers and Nuts	21
1.05.09	Lifting Lugs	22
1.05.10	Standardization of Grease Fittings	22
1.05.11	Grease and Oil (including Reservoirs)	22
1.05.12	Spare Parts, Special Tools and Supplies	22
1.06	TEMPORARY FACILITIES	23
1.06.01	Utilities	23
1.06.02	Traffic Control - State, County and Municipal Roads	24

1.07	PRODUCTS	25
1.07.01	Transportation	25
1.07.02	Handling	25
1.07.03	Storage	25
1.07.04	Protection	26
1.08	PROJECT CLOSEOUT	28
1.08.01	Record Drawings	28
1.08.02	Final Cleaning Up	28
1.08.03	Final Inspection	29
1.08.04	Startup	29
1.09	LABORATORY TESTING	29
1.09.01	Services of Testing Laboratory	29
1.09.02	Inspection, Approval	29
 <u>DIVISION 2 - SITE WORK</u>		
2.01	BORINGS	1
2.02	OMITTED	1
2.03	TRENCHING, EXCAVATION, BACKFILLING AND GRADING	1
2.03.01	Scope of Work	1
2.03.02	Reference Specifications	2
2.03.03	Materials - Backfill	2
2.03.04	Unauthorized Excavation	3
2.03.05	Drainage	4
2.03.06	Dewatering	4
2.03.07	Disposal and Stockpile of Material	4
2.03.08	Test Pits for Buried Utilities and Structures	5
2.03.09	Excavation	5
2.03.10	Trench Excavation	6
2.03.11	Sheeting, Shoring and Bracing	7
2.03.12	Backfill in Trench	8
2.03.13	Protection of Existing Structures and Utilities	9
2.03.14	Relocation and Replacement of Existing Structures and Utilities	10
2.03.15	Backfill and Bedding Material Around Underground Fuel Storage Tanks	10
2.04	EROSION CONTROL	11
2.04.01	Scope of Work	11
2.04.02	Materials	11
2.04.03	Methods of Construction	11

2.05	OMITTED	12
2.06	OMITTED	12
2.07	OMITTED	12
2.08	PAVING	12
2.08.01	Scope of Work	12
2.08.02	Paving Materials	12
2.09	OMITTED	13
2.10	FENCES AND GATES	14
2.10.01	Scope of Work	14
2.10.02	Materials	14
2.10.03	Methods of Construction	15
2.11	OMITTED	16

DIVISION 3 - CONCRETE

3.01	CAST-IN-PLACE CONCRETE	1
3.01.01	General	1
3.01.02	Classes of Concrete	1
3.01.03	Portland Cement	1
3.01.04	Admixtures	2
3.01.05	Water	2
3.01.06	Fine Aggregate	2
3.01.07	Coarse Aggregate	3
3.01.08	Concrete Quality	3
3.01.09	Consistency	4
3.01.10	Determining Proportions and Concrete Testing	4
3.01.11	Measuring Materials	5
3.01.12	Site-Mixed Concrete	5
3.01.13	Ready-Mixed Concrete	6
3.01.14	Remixing Concrete	7
3.01.15	Placing and Vibrating Concrete	7
3.01.16	Bonding Concrete at Construction Joints	8
3.01.17	Curing and Protection	9
3.01.18	Trimming and Repairs	10
3.01.19	Surface Finish	11
3.01.20	Wood-Float Finish	11
3.01.21	Broomed Finish	12
3.01.22	Miscellaneous Concrete Fill	12
3.01.23	Finish Around Openings	12
3.01.24	Metalwork in Concrete	12
3.01.25	Forms	13
3.01.26	Removing Forms	14
3.01.27	Bonding Agent	15

3.01.28	Cold Weather Placement	15
3.01.29	Warm and Inclement Weather Placement	15
3.01.30	Construction Joints	16
3.01.31	Grouting	16
3.01.32	Omitted	16
3.01.33	Shop Drawings	16
3.01.34	Cutting and Patching	17
3.01.35	Massive Concrete Sections	17
3.01.36	Omitted	18
3.02	REINFORCEMENT	18
3.02.01	General	18
3.02.02	Reinforcing Steel	18
3.02.03	Welded Wire Fabric	18
3.02.04	Fabricating and Placing	18
3.02.04.01	General Requirements	18
3.02.04.02	Bar Supports	19
3.02.04.03	Splices	19
3.02.04.04	Columns	19
3.02.04.05	Future Bonding	19
3.02.04.06	Welded Wire Fabric	19
3.02.04.07	Fabricating and Placing Tolerances	20
3.03	PRECAST CONCRETE	20
3.03.01	Scope	20
3.03.02	Precast Concrete Manholes	20
3.03.03	Precast Concrete Structures	20
3.03.03.01	General	20
3.03.03.02	Manufacturer	21
3.03.03.03	Strength	21
3.03.03.04	Design	21
3.03.03.05	Curing	21
3.03.04	Omitted	21
3.04	WATERSTOPS, CONSTRUCTION AND EXPANSION JOINTS	21
3.04.01	General	21
3.04.02	Materials	22
3.04.03	Sealant Application	22

**SECTION 0283131 CHAIN LINK CANTILEVER SLIDE GATE WITH
AUTOMATIC GATE OPERATOR**

1.	GENERAL	1
1.01	WORK INCLUDED	1
2.	PRODUCTS	1
2.01	CHAIN LINK CANTILEVER SLIDE GATES	1

2.02	AUTOMATIC SLIDE GATE OPERATOR	2
2.03	ELECTRIC GATE EDGE	3
2.04	AUTOMATIC SLIDE GATE REMOTE CONTROL SYSTEM	3
3.	EXECUTION	4
3.01	INSTALLATION	4
4.	PAYMENT	4

SECTION 10530 PRE-FABRICATED FREE STANDING METAL CANOPY

1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	QUALITY ASSURANCE	1
1.03	STRUCTURAL DESIGN CRITERIA	1
2.	MATERIALS	2
2.01	STRUCTURAL FRAMING	2
2.02	ROOF/CEILING DECK	2
2.03	FASCIA SYSTEM	2
2.04	GUTTERS, TRIM AND FLASHINGS	3
2.05	COLUMN ENCLOSURE	3
2.06	SEALING MATERIALS	3
2.07	ACCESSORIES	3
3.	EXECUTION	3
3.01	ERECTION	3
4.	PAYMENT	4

**SECTION 11140 FUEL PUMPS, STORAGE, DISPENSING SYSTEMS
AND MISCELLANEOUS APPURTENANCES**

1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	QUALITY ASSURANCE	2
1.03	SERVICE OF MANUFACTURER'S REPRESENTATIVE	2

2.	PRODUCTS	2
2.01	DISPENSING UNITS	2
2.01.01	Unleaded Gasoline Fuel Dispensers	3
2.01.02	Diesel Fuel Dispensers	3
2.02	SUBMERSIBLE FUEL PUMPS	3
2.03	OVER-FILL MANHOLES	3
2.04	VAPOR RECOVERY SYSTEM COMPONENTS	4
2.05	SECONDARY CONTAINMENT SYSTEM	4
2.06	SECONDARY CONTAINMENT CHAMBER FRAMES AND COVERS	5
2.07	DISPENSER PANS	5
2.08	ISLAND FORMS	6
3.	INSTALLATION	6
4.	PAYMENT	6

**SECTION 13216 DOUBLE WALL STEEL UNDERGROUND FUEL
STORAGE TANKS**

1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	QUALITY ASSURANCE	1
1.03	WARRANTY	1
2.	PRODUCTS	2
2.01	GENERAL	2
2.02	TANK MATERIALS	2
2.03	TANK FINISH	2
2.04	REVERSE FLANGED AUTOMATIC VAPOR PURGING MANWAY (AVPM)	3
2.05	CHARGED CONTAINMENT	3
2.06	SECONDARY CONTAINMENT CHAMBER	3
3.	INSTALLATION	4

3.01	ANCHORING TANKS	5
4.	PAYMENT	5
<u>SECTION 13350 TANK LEAK DETECTION, MONITORING AND FUEL MANAGEMENT</u>		
1.	GENERAL	1
1.01	WORK INCLUDED	1
2.	PRODUCTS	1
2.01	TANK LEAK DETECTION/MONITORING SYSTEM	1
2.01.01	Wall Mounted Console	1
2.01.02	Magnetrostrictive Prove	2
2.01.03	Single-Cable Interstitial Sensing Elements Capable of Detecting Fuel or Water (Discriminating)	3
2.01.04	Single-Cable Pan Containment Sump Sensing Elements Capable of Detecting Fuel or Water (Discriminating)	3
2.01.05	Operation Capabilities	3
2.02	FUEL CONTROL SYSTEM	5
2.02.01	Software Features	5
2.02.02	Customized Software Features	6
2.02.03	Hardward Features	6
2.03	DESKTOP PERSONAL COMPUTER	8
2.03.01	System Components	8
2.03.02	Case & Power Supply	8
2.03.03	Data Storage	8
2.03.04	System Software	8
2.03.05	Monitor	9
2.03.06	Keyboard	9
2.04	INTERFACE & MANAGEMENT SOFTWARE	9
2.04.01	Tank Monitoring	9
2.04.02	Fuel Control/Management	9
3.	EXECUTION	10
3.01	INSTALLATION	10
4.	PAYMENT	10

SECTION 15064 FUEL SYSTEM PIPING

1.	GENERAL	1
1.01	WORK INCLUDED	1
2.	PRODUCTS	1
2.01	FRP PIPING	1
2.02	GALVANIZED PIPING	1
3.	EXECUTION	1
3.01	INSTALLATION	1
3.02	TRENCH EXCAVATION	2
3.03	TRENCH FILL	2
3.04	INSPECTION	2
3.05	CONNECTIONS	2
3.06	TESTING	3
3.07	ADHESIVES	3
3.08	PRECAUTIONS	4
3.09	INSPECTION AND GUARANTEE	4
4.	PAYMENT	4

SECTION 16000 ELECTRICAL

1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	LAYING OUT THE WORK	1
1.03	DEMOLITION	2
1.04	GROUNDING	2
1.05	IDENTIFICATION	2
2.	MATERIAL	3
2.01	RACEWAY/CONDUIT	3
2.02	CONDUIT FITTINGS	5

2.03	OUTLET, DEVICE, JUNCTION AND PULL BOXES	5
2.04	MISCELLANEOUS STEEL AND HARDWARE	6
2.05	WIRING	6
2.06	WIRE DEVICES - PLATES	8
2.07	SAFETY SWITCHES	8
3.	SPECIAL OWNER REQUIREMENTS	9
4.	REMOVAL ALTERATIONS, RELOCATIONS, AND CONNECTIONS TO EXISTING SYSTEMS	9
5.	PAYMENT	10

**SECTION 17000 UNDERGROUND STORAGE TANK CLOSURE AND EXISTING
FUELING FACILITY REMOVAL**

1.	SCOPE	1
2.	QUALIFICATIONS	1
3.	PERMITS	1
4.	DISPOSAL OF TANK BOTTOMS	2
5.	SITE ASSESSMENT	2
6.	BACKFILLING	3
7.	PAVING	3
8.	PAYMENT	3

APPENDIX SECTION

Appendix A

Appendix B

INSTRUCTIONS TO BIDDERS

INDEX

<u>Number</u>	<u>Description</u>	<u>Page Number</u>
1.0	CONTRACT DOCUMENTS	1
2.0	EXAMINATION	1
3.0	QUESTIONS	1
4.0	OMISSIONS AND DISCREPANCIES	1
5.0	QUALIFICATIONS OF BIDDERS	2
6.0	COMPARISON OF BIDS	2
7.0	BID SUBMISSION	2
8.0	BIDDER'S WARRANTY	2
9.0	BIDS	3
10.0	INFORMAL BIDS	3
11.0	TIME TO AWARD CONTRACT	3
12.0	WITHDRAWAL OF BIDS	3
13.0	OBLIGATION OF BIDDERS	4
14.0	LOWEST QUALIFIED BIDDER	4
15.0	BID SECURITY/BID DEPOSIT	4
16.0	AGREEMENT OF SURETY	5
17.0	RIGHT TO REJECT BIDS	5
18.0	BONDS	5
19.0	EXECUTION OF CONTRACT	6
20.0	DAMAGES	6
21.0	INSURANCE CERTIFICATES AND POLICIES	6
22.0	POWER OF ATTORNEY	6
23.0	NON-COLLUSION AFFIDAVIT	6

<u>Number</u>	<u>Description</u>	<u>Page Number</u>
24.0	CONDITIONS OF WORK	7
25.0	MATERIALS	7
26.0	SUBSTITUTION	7
27.0	TIME FOR COMPLETION	8
28.0	LIQUIDATED DAMAGES	8
29.0	INFORMATION NOT GUARANTEED	8
30.0	SALES AND USE TAXES	8
31.0	BID ITEM BREAKDOWN	8
32.0	STOCKHOLDER DISCLOSURE STATEMENT	8
33.0	AFFIRMATIVE ACTION REQUIREMENTS	9

INSTRUCTIONS TO BIDDERS

1.0 CONTRACT DOCUMENTS

The Contract Documents are defined in the general conditions and may be obtained from The Brick Township Municipal Offices, office of Purchasing and Contracting, 401 Chambersbridge Avenue, Brick, New Jersey during normal business hours, upon payment of \$50.00 for each set.

It is the obligation of the Bidder to make an investigation of subsurface conditions prior to submitting a proposal.

2.0 EXAMINATION

Bidders must examine each of the Contract Documents that form the contract, become thoroughly familiar with the plans and specifications, must visit the location of the work, and inform themselves of the conditions and make their own estimate of the facilities and difficulties attending the execution of the work.

3.0 QUESTIONS

No oral interpretation shall be made to any bidder as to the meaning of any of the Contract Documents nor be effective to modify any of the provisions of the Contract Documents. All questions shall be submitted in writing to the Owner and shall be postmarked at least seven (7) days before the established date for bid opening. The Owner will arrange all pertinent questions received and his decision regarding each in addenda which shall become part of the Contract. Prior to the opening of bids, a copy of these addenda will be sent to each of those who have obtained a set of the Contract Documents from the Owner.

Bidders shall acknowledge receipt of addenda in the space provided in the bid. In the event that the Bidder does not acknowledge receipt of any or all addenda, the Bidder nonetheless shall be bound to comply with said addenda.

4.0 OMISSIONS AND DISCREPANCIES

Should a Bidder find discrepancies or omissions in the Contract Documents, or should he be in doubt as to meaning, he should immediately notify the Owner in writing. The Owner shall issue an addendum for clarification to all of those

who have received sets of Contract Documents. Time limits shall be as defined in Section 3 above, entitled "Questions."

5.0 QUALIFICATIONS OF BIDDERS

The Owner may make such investigation as he deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted or investigation of such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. After notification from the Owner the three (3) lowest Bidders may be required to submit a financial statement prepared by a certified public accountant to the Owner within ten days.

6.0 COMPARISON OF BIDS

Comparison of bids will be made on the basis of the total price bid for the work as shown on the drawings and defined in the specifications. The estimates of quantities, if given in the bid, are for the purpose of arriving at a total price bid for the project to make a comparison in awarding the work.

7.0 BID SUBMISSION

Each bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, his address, the name of the project for which the Bid is submitted and the number of the contract(s) for which the Bid is submitted.

Enclosed in the sealed envelope with the bid shall be the following documents: Bid Security, Power of Attorney (if Bid Security is in the form of a bond) Contractor's Experience Statement, Agreement of Surety, Non-Collusion Affidavit, a list of all stockholders who hold a 10 percent or greater interest in the company, Affirmative Action Affidavit, list of subcontractors, and the list of equipment.

8.0 BIDDER'S WARRANTY

By the act of submitting a bid for the proposed contract, the Bidder warrants that neither the Bidder nor any of his employees, agents, intended suppliers or subcontractors have relied upon any verbal representations, allegedly authorized or unauthorized from the Owner, his employees or agents

including architects, engineers or consultants, in assembling the bid figure.

9.0 BIDS

All bids must be presented upon the bid forms included in the Contract Documents, and shall state the proposed price for the work both in words and in figures, and shall be signed by the Bidder with his business address and name of corporation or company. Bid forms shall not be altered or added to in any way.

10.0 INFORMAL BIDS

The Owner may reject as incomplete bids which contain erasures not properly initialed or incomplete bid documents. The Owner reserves the right to waive any informalities.

11.0 TIME TO AWARD CONTRACT

The Owner will make an award of the Contract(s) under and pursuant to N.J.S.A. 40A: 11-1 et seq., (New Jersey Public Contracts Law), within sixty (60) days from the date of the receipt of bids.

12.0 WITHDRAWAL OF BIDS

The attention of Bidders is directed to the fact that in submitting his bid, the Bidder agrees that he will not withdraw it within sixty (60) consecutive calendar days after the bids are opened.

Upon proper request and identification, bids may be withdrawn as follows:

1. Any time prior to the designated time for the opening of bids.
2. Provided the bid has not been accepted by the Owner at any time subsequent to the expiration of the period during which the Bidder has agreed not to withdraw his bid.

Unless a bid is formally withdrawn, it shall be deemed open for acceptance until the Contract Agreement has been executed by both parties thereto or until the Owner manifests that he does not intend to accept the bid. Notice of acceptance of a bid shall not constitute rejection of any other bid.

13.0 OBLIGATION OF BIDDERS

At the time of the opening of bids, each Bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Contract Documents, including all addenda. The failure or omission of any Bidder to receive or examine any form, instrument or document shall in no way relieve any Bidder from his obligation to fulfill the requirements set forth in the Contract Documents of which his bid is a part.

14.0 LOWEST QUALIFIED BIDDER

The contract will be awarded to the responsive responsible Bidder whose bid totals the lowest number of dollars.

All bids will be compared on the basis of the work shown on the plans and as specified in the Contract Documents, including addenda.

In the event that there is a discrepancy between prices written in words and written in figures, prices written in words shall govern. No bid will be accepted which does not contain a price for each and every item on the bid form.

15.0 BID SECURITY/BID DEPOSIT

Each bid must be accompanied by a deposit in the form of a bid bond issued by a surety licensed in the State of New Jersey or a certified check issued by a National Bank or Trust Company and payable to the order of The Township of Brick in the amount of ten percent (10%) of the total amount bid, or \$20,000.00.

The deposit shall be enclosed in the sealed envelope containing the bid. Each bid deposit may be held by the Owner as security for fulfillment of the Bidder's promises, set forth in his bid, that he will not withdraw his bid while it is being considered and will execute the Contract Agreement and furnish the required bonds and insurance certificates if his bid is accepted. Should the Bidder fail to fulfill such promises, his bid deposit shall become the

property of, and be payable to, the Owner to be credited towards the damages defined in Section 20 of these instructions, with any amount in excess of such damages being returned to the Bidder.

Unless it shall become the property of and be payable to the Owner, said deposit shall be returned to the Bidder as

hereinafter provided. Bid deposits will be returned to all except the three (3) lowest bidders within ten days, (Sundays and legal holidays excluded) after the formal opening of bids, and to the three (3) lowest Bidders within three (3) days (Sundays and legal holidays excluded) after the Owner and the accepted Bidder have executed the Contract Agreement. In the event that the contract has not been awarded by the Owner within 60 days after the opening of the bids, bid security will be returned promptly upon demand of any Bidder whose bid has not been accepted.

None of the three (3) lowest bids shall be deemed rejected, notwithstanding acceptance of one of the bids, until the Contract Agreement has been executed by both the Owner and the accepted Bidder.

16.0 AGREEMENT OF SURETY

In addition to the bid security, each bid must be accompanied by an agreement of surety similar to the form attached to the bid from a surety company qualified to do business in the State of New Jersey agreeing to furnish the required bonds in event of the award of the contract to the Bidder.

17.0 RIGHT TO REJECT BIDS

The Owner reserves the right to reject any or all bids, if, in his sole discretion, it is in the public interest to do so.

18.0 BONDS

A Performance Bond, a Labor and Materials Payment Bond, and a Maintenance Bond will be required in the forms which are inserted after the Contract Agreement, each in the sum as herein specified and duly executed by the successful Bidder as Principal and by a surety company licensed to do business under the laws of the State of New Jersey and satisfactory to the Owner as surety.

PERFORMANCE BOND	-	FULL AMOUNT OF THE CONTRACT
LABOR AND MATERIAL BOND	-	FULL AMOUNT OF THE CONTRACT
MAINTENANCE BOND	-	AMOUNT EQUAL TO 10 PERCENT OF THE CONTRACT, OR \$1,000.00, WHICHEVER IS GREATER.

Performance and Labor and Material Bonds must be furnished simultaneously with the delivery of the executed contract by the successful Bidder, and shall remain in effect for one (1) year after the acceptance of the project by the Owner. The Maintenance Bond shall be dated as of and is to continue in effect for a period of one (1) year from the date of completion, approval and acceptance of the entire work by the Owner.

19.0 EXECUTION OF CONTRACT

The Bidder to whom the contract is awarded will be required to execute the Contract Agreement and furnish the required bonds and insurance certificates within ten (10) days (Sunday and legal holidays excluded) after receipt of notification that the Contract Agreement is ready for signature.

20.0 DAMAGES

A successful Bidder, upon failure or refusal to execute and deliver the Contract Agreement and the required bonds and insurance certificates within the time specified in the Bid, shall be liable to the Owner for damages suffered. Said damages shall be defined as the difference between the amount specified in the successful bid and the amount for which the Owner may contract with another party to perform the work covered by said Bid, if the latter amount is in excess of the former, together with any additional expenses incurred by the Owner as a result of such Bidder's failure to enter into the contract, including, but not limited to, the expense for readvertisement for bids and the processing of such bids.

21.0 INSURANCE CERTIFICATES AND POLICIES

At the time of executing the Contract Agreement the Contractor shall submit insurance certificates and a copy of the insurance policy covering all insurance called for under the contract.

22.0 POWER OF ATTORNEY

Attorneys-in-Fact who sign bid bonds or contract bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

23.0 NON-COLLUSION AFFIDAVIT

A Non-Collusion Affidavit as included in the Bid Documents must be completed and submitted with all bids.

24.0 CONDITIONS OF WORK

Each Bidder must inform himself fully of the conditions relating to the construction and labor under which the work will be performed. Failure to do so will not relieve a successful Bidder of his obligation to furnish all material and labor necessary to carry out the provisions of the Contract Documents and to complete the contemplated work for the consideration set forth in his bid.

25.0 MATERIALS

All materials and equipment for the project shall be furnished by the Contractor, unless otherwise specifically prescribed. They shall conform to the plans and specifications and shall be new and from an accepted source.

In accordance with N.J.S.A. 40A:11-18, only manufactured and farm products of the United States, wherever available, shall be used in such work, if applicable.

26.0 SUBSTITUTION

In the various detailed sections of the specifications, where any item of equipment or material is indicated by proprietary name, trade name, or name of one or more manufacturers, with the addition of such expressions as "or equal" it is to be understood that equivalent equipment or products of either a manufacturer named or of a manufacturer not named, which meet the detailed requirements of the specifications, may be used, subject to the acceptance of the Owner as to equality thereof. It is distinctly understood that: (1) the Owner will use his own judgment in determining whether or not any item of equipment or material proposed is equal in quality to that specified; (2) the decision of the Owner on all such questions of equality shall be final, and (3) in the event of any adverse decision by the Owner no claim of any sort shall be made or allowed against the Owner.

Substitute materials and equipment will be considered only if they are equal in quality, durability, appearance, strength, capacity, type and other requirements of the indicated items, if they conform to the physical limitation of the locations where they will be used, and if they are acceptable to the Owner. The burden of proving equivalency shall be on the Contractor. Where any substitution alters the design of space requirements of any of the work, the Contractor shall bear all costs of the revised design and construction, including the preparation and submission to the Owner of detailed drawings showing all modifications of the contract plans necessary to accommodate such equipment,

all changes or additions to structures, piping, buildings, mechanical and electrical work, accessories, controls, and all other changes to the work required to accommodate the substitute item.

27.0 TIME FOR COMPLETION

The Contractor will be required to complete the work under the contract within One Hundred Fifty (150) calendar days from the date of issue of the "Notice to Proceed."

28.0 LIQUIDATED DAMAGES

Should a Contractor fail to complete his work on or before the time set forth above or as provided in the Contract Documents covering extension of time, then the Owner may retain an amount as set forth in the general conditions as liquidated damages for each calendar day in accordance with the provisions of Section 4.24 of the General Conditions.

29.0 INFORMATION NOT GUARANTEED

All information given on the plans or in the other Contract Documents relating to test pits, subsurface conditions, and existing pipes and other structures is from the best sources at present available to the Owner. All such information and the drawings of existing conditions are furnished only for the information and convenience of Bidders.

30.0 SALES AND USE TAXES

The Bidder shall study all tax laws for the jurisdiction in which the work is done, particularly so-called "sales and use taxes" for which he may be liable as a consumer or user of goods. The owner is exempt from sales tax and such taxes shall not be included in the bid amounts.

31.0 BID ITEM BREAKDOWN

At the preconstruction conference the Contractor shall provide a complete breakdown of the cost of his work for each lump sum bid item. The breakdown shall be prepared in such a manner that it may be used as a basis for estimating the value of work completed to the end of any month. The extent and basis of the breakdown shall be subject to the acceptance of the Owner.

32.0 STOCKHOLDER DISCLOSURE STATEMENT

If the Bidder is a corporation or a partnership, the Bidder, in compliance with Chapter 33, P.L. 1977, shall submit with the bid a statement setting forth the names and addresses of

all stockholders or individual partners who own ten percent or more of its stock or interest.

33.0 AFFIRMATIVE ACTION REQUIREMENTS

Each Bidder submitting a bid shall be required to certify that he has complied with **Public Agency Regulations For Awarding Contracts Pursuant to P.L. 1975, C. 127 (N.J.A.C. 17:27)** issued by the State of New Jersey, Department of the Treasury, Affirmative Action Office, covering non-discrimination in employment.

During the performance of this contract, the Contractor agrees as follows:

A. The Contractor or Subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status or sex. The Contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment without regard to their age, race, creed, color, national origin, ancestry, marital status or sex. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this non-discrimination clause.

B. The Contractor or Subcontractor, where applicable, will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation.

C. The Contractor or Subcontractor, where applicable, will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer advising the labor union or workers' representative of the Contractor's commitments under this Act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. The Contractor or Subcontractor, where applicable, agrees to comply with any regulations promulgated by the

Treasurer pursuant to P.L. 1975, C. 127, as amended and supplemented from time to time.

E. When hiring workers in each construction trade, the Contractor or Subcontractor agrees to attempt in good faith to employ minority and female workers in each construction trade consistent with the applicable employment goal prescribed by N.J.A.C. 17:27-7.3; provided, however, that the Affirmative Action Office may, in its discretion, exempt a Contractor or Subcontractor from compliance with the good faith procedures prescribed below, as long as the Affirmative Action Office is satisfied that the Contractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Affirmative Action Office, that its percentage of active "card carrying" members who are minority and female workers is equal to or greater than the applicable employment goal prescribed by N.J.A.C. 17:27-7.3, promulgated by the Treasurer pursuant to P.L. 1975, C. 127, as amended and supplemented from time to time. The Contractor or Subcontractor agrees that a good faith effort shall include compliance with the following procedures:

1. If the Contractor or Subcontractor has a referral agreement or arrangement with a union for a construction trade, the Contractor or Subcontractor shall, within three days of the contract award, seek assurances from the union that it will cooperate with the Contractor or Subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to P.L. 1975, C. 127, as supplemented and amended from time to time.

2. If the Contractor or Subcontractor is unable to obtain said assurances from the construction trade union at least five days prior to the commencement of construction work, the Contractor or Subcontractor agrees to attempt to hire minority and female workers directly, consistent with the applicable employment goal.

3. If the Contractor's or Subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and female workers consistent with the applicable employment goal, the Contractor or Subcontractor agrees to be prepared to hire minority and female workers directly, consistent with the applicable employment goal, by complying with the hiring procedures prescribed below; and the Contractor or Subcontractor further agrees to take said action immediately if it determines or is so notified by the Affirmative Action Office that the union is not referring

minority and female workers consistent with the applicable employment goal.

F. If the hiring of a workforce consistent with the employment goal has not or cannot be achieved for each construction trade by adhering to the above procedures, or if the Contractor does not have a referral agreement or arrangement with a union for a construction trade, the Contractor or Subcontractor agrees to take the following actions consistent with the applicable county employment goals:

1. To notify the Public Agency Compliance Officer, Affirmative Action Office, and at least one approved minority referral organization of its manpower needs, and request referral of minority and female workers.

2. To notify any minority and female workers who have been listed with it as awaiting available vacancies.

3. Prior to commencement of work, to request the local construction trade union, if the Contractor or Subcontractor has a referral agreement or arrangement with a union for the construction trade, to refer minority and female workers to fill job openings.

4. To leave standing requests for additional referral to minority and female workers with the local construction trade union, if the Contractor or Subcontractor has a referral agreement or arrangement with a union for the construction trade, the State training and employment service, and other approved referral sources in the area until such time as the workforce is consistent with the employment goal.

5. If it is necessary to lay off some of the workers in a given trade on the construction site, to assure, consistent with the applicable State and Federal statutes and court decisions, that sufficient minority and female employees remain on the site consistent with the employment goal; and to employ any minority and female workers so laid off by the Contractor or any other construction site in the area on which its workforce composition is not consistent with an employment goal established pursuant to rules implementing P.L. 1975, C. 127.

6. To adhere to the following procedure when minority and female workers apply or are referred to the contractor or subcontractor:

- i. If said individuals have never previously received any document or certification signifying a level of

qualification lower than that required, the Contractor or Subcontractor shall determine the qualifications of such individuals; and if the Contractor's or Subcontractor's workforce in each construction trade is not consistent with the applicable employment goal, it shall employ such persons which satisfy appropriate qualification standards -- provided, however, that a Contractor or Subcontractor shall determine that the individual at least possesses the skills and experience recognized by any worker skills and experience classification determination which may have been made by a Public Agency Compliance Officer, union, apprentice program or a referral agency, provided the referral agency is acceptable to the Affirmative Action Office and provided further, that, if necessary, the Contractor or Subcontractor shall hire minority and female workers who qualify as trainees pursuant to these rules. All of these requirements, however, are limited by the provisions of G. below.

ii. If the Contractor's or Subcontractor's workforce is consistent with the applicable employment goal, the name of said female or minority group individual shall be maintained on a waiting list for the first consideration, in the event the Contractor's or Subcontractor's workforce is no longer consistent with the applicable employment goal.

iii. If, for any reason, said Contractor or Subcontractor determines that a minority individual or a female is not qualified or if the individual qualifies as an advanced trainee or apprentice, the Contractor or Subcontractor shall inform the individual in writing with the reasons for the determination, maintain a copy in its files, and send a copy to the Public Agency Compliance Officer and to the Affirmative Action Office.

7. To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Affirmative Action Office and submitted promptly to that office upon request.

G. The Contractor or Subcontractor agrees that nothing contained in F. above shall preclude the Contractor or Subcontractor from complying with the hiring hall or apprenticeship provisions in any applicable collective bargaining agreement or hiring hall arrangements; and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement -- provided, however, that where

the practices of a union or apprenticeship program will result in the exclusion of minorities and females or the failure to refer minorities and females consistent with the county employment goal, the Contractor or Subcontractor shall consider for employment persons referred pursuant to F. above without regard to such agreement or arrangement; provided further, however, that the Contractor or Subcontractor shall not be required to employ female and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the Contractor or Subcontractor agrees that, in implementing the procedures of F. above, it shall, where applicable, employ minority and female workers residing within the geographical jurisdiction of the union.

H. The Contractor agrees to complete an Initial Project Manning Report (Form AA-201) on forms provided by the Affirmative Action Office or the public agency, or on a copy of said form no later than three (3) days after signing a construction contract; provided, however, that the public agency may extend in a particular case the allowable time for submitting the form to no more than 14 days; and to submit a copy of the Monthly Project Manning Report once a month thereafter for the duration of this contract to the Affirmative Action Office and to the Public Agency Compliance Officer. The Contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and off-the-job programs for outreach and training of minority and female trainees employed on the construction projects.

I. The Contractor and its Subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Affirmative Action Office for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code (N.J.A.C. 17:27).

If the Contractor refuses to sign this contract (containing the mandatory Affirmative Action contract language) at the time the contract is submitted to him by the Owner, then the Owner shall reject the Contractor's bid as non-responsive. When such a rejection occurs, the same Affirmative Action requirements shall apply to any other Contractor selected by

the Owner in accordance with the New Jersey Public
Contracts Law.

BID FORMS

INDEX

<u>Description</u>	<u>Page Number</u>
BID FORM	1
BID BOND	5
CONTRACTOR'S EXPERIENCE STATEMENT	7
AGREEMENT OF SURETY	8
NON-COLLUSION AFFIDAVIT	9
LIST OF STOCKHOLDERS	10
LIST OF SUBCONTRACTORS	11

BID FORM

TO: The Township of Brick
401 Chambersbridge Road
Brick, N.J. 08723

RE: Contract Name: **VEHICLE REFUELING FACILITY**
Contract Number: 93012

This bid will not be accepted after 10:00 A.M. prevailing time, on the 21st day of July, 1993, at which time all bids will be publicly opened and read.

(Name of Firm Submitting Bid)

The undersigned hereby acknowledges receipt of the following addenda:

<u>Addendum No.</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

Included with this bid shall be the following documents:

1. Bid Security
2. Power of attorney (if bid security is in the form of a bond)
3. Contractor's Experience Statement
4. Agreement of Surety
5. Non-Collusion Affidavit
6. List of Stockholders
7. List of Subcontractors

The undersigned hereby proposes and agrees to furnish all the necessary labor, materials, equipment, tools and services necessary for the work specified.

The undersigned has examined the location of the proposed work, the plans, specifications, and other contract documents and is familiar with the local conditions at the place where work is to be performed and understands that information relative to existing structures, apparent and latent conditions and natural phenomena as furnished in the

contract documents or by the Owner, carries no guarantee, expressed or implied, as to its completeness or accuracy and has made all due allowances therefore.

The undersigned bidder declares that this bid is made without connection with any other person or persons making bids for the same work and is in all respects fair and without collusion or fraud.

The undersigned bidder has determined the quantity and quality of equipment and materials required; has investigated the location and determined the sources of supply of the materials required; has investigated labor conditions; and has arranged for the continuous prosecution of the work herein described.

The undersigned bidder agrees that the prices bid for all items shall apply to actual quantities required, approved and used during construction of the project, including addenda, change orders, and supplemental agreements.

The undersigned bidder hereby agrees to be bound by the award of the contract and, if awarded the contract on this bid, to execute within ten (10) days after receipt of notification that the contract documents are ready for signature the required Contract Agreement, Contract Bonds, and Insurance Certificates, of which Contract this bid, the plans for the work, and the specifications as above indicated shall be a part.

The undersigned understands that the Owner reserves the right to reject any or all bids or to waive any informality or technicality of any bid in the interest of the Owner.

Accompanying this bid is a Bid Bond or a Certified Check in the sum of ten percent (10%) of the amount of the bid (but not to exceed \$20,000.00), payable to the Owner as a guarantee that the Agreement will be executed and a Performance Bond, Labor and Material Bond, and the specified Insurance Certificates will be furnished within ten (10) days after receipt of notification that the contract agreements are ready for signature.

If this bid shall be accepted by the Owner, and the undersigned shall fail to contract aforesaid, then the Owner shall be entitled to recover from the bidder the difference between the amount specified in the bid and the amount for which the Owner may contract with another party to perform the work covered by said bid, if the latter amount be in excess of the former.

If this bid shall be accepted by the Owner, the undersigned agrees to complete the entire work proposed under this contract within One Hundred Fifty (150) consecutive calendar days from the date specified in the "Notice to Proceed."

The following bid schedule will be completed in ink or typewritten. The amount shall be written in both words and figures. In the case of a discrepancy, the amount written in words will govern. The successful bidder will be required to furnish an itemized breakdown for lump sum items as indicated in the "Instructions to Bidders."

Bid Item No. 1: Furnish all materials, labor and equipment necessary for the construction of a Vehicle Refueling Facility complete with installation of new underground fuel storage tanks, dispensers, pumps, piping, leak detection, fuel management, concrete work, site work and electrical work specified in these contract documents for the lump sum price of:

_____ \$ _____
(Dollars and Cents)

Bid Item No. 2: Furnish all materials, labor and equipment necessary for the construction of a pre-fabricated, free standing, metal canopy complete with primary, secondary structural framing, roof/ceiling and fascia covering, trim, flashings, fasteners, lighting, foundation and drainage systems as specified in these Contract Documents for the lump sum price of:

_____ \$ _____
(Dollars and Cents)

Bid Item No. 3: Furnish all labor and equipment necessary for the complete removal and disposal of all existing buried tanks (underground) dispensers, pumps, piping, wiring, conduit, concrete island and concrete slab as specified in these Contract Documents for the lump sum price of:

_____ \$ _____

Total Lump Sum Bid (Bid Item No. 1 plus Bid Item No. 2 plus Bid Item No. 3)

_____ \$ _____
(Dollars and Cents)

IF A CORPORATION:

Name of Contractor _____

Signature of Bidder _____

Printed Name and Title _____

Business Address _____

Tax Identification No. _____

Incorporated under the laws of the State of _____

Names of Officers:

President _____

Secretary _____

Treasurer _____

Dated: _____

(Affix Corporate Seal Here)

IF A PARTNERSHIP, INDIVIDUAL, OR NON-INCORPORATED ORGANIZATION:

Name of Company _____

Signature of Bidder _____

Printed Name and Title _____

Business Address _____

Tax Identification Number _____

Names and Addresses of Company Members:

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned,

_____ as Principal, and

_____ as Surety, are hereby

held and firmly bound unto _____

as Owner, in the sum of _____

for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. The condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain bid, attached hereto and made a part hereof, to enter into a contract in writing for

NOW, THEREFORE,

- (a) If said bid shall be rejected, or in the alternate,
- (b) If said bid shall be accepted and the Principal shall execute and deliver a contract in the form of Agreement attached hereto (properly completed in accordance with said bid) and shall furnish a bond for the faithful performance of said Agreement and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid,

then this obligation shall be void; otherwise, the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall in no way be impaired or affected by any extension of the time within which the Owner may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year as set forth below.

Date: _____ (Principal)

(Surety)

By: _____

(Affix Seal Here)

The bidder is requested to state below what work of a similar character to that included in the proposed contract he has done, and give references that will enable the Owner to judge his experience, skill and business standing.

Bidders and proposed subcontractors may be required to submit additional information regarding their respective financial condition prior to the award of the contract.

[illegible]

BID FORM
Page 7

AGREEMENT OF SURETY

The _____, a corporation
created and existing under the laws of the State of _____

whose principal office is in _____
and is duly authorized to transact business in the State of
New Jersey (hereinafter called the Surety), hereby

undertakes that if the accompanying bid of _____

_____ (hereinafter called
the Bidder) dated _____ for _____

be accepted as to any or all of the items of material and
workmanship proposed to be furnished thereby, or as to any
portion of the same, the said bidder shall, within ten (10)
days after notice of the award of contract, enter into a
contract with The Owner (hereinafter called the Obligee),
and give bond with good and sufficient surety for the
faithful performance of such contract, or in the event of
the failure of the bidder to enter into such contract and
give such bond, the Surety will pay to the Obligee the
difference between the amount specified in said bid and the
amount for which the Obligee may contract with another party
to perform the work covered by said bid, if the latter
amount be in excess of the former.

Provided and subject to the condition precedent:

That any suits at law or proceedings in equity brought
or to be brought against the Surety to recover any claim
hereunder must be instituted and service had upon the Surety
within ninety (90) days after the acceptance of said bid of
the Principal by the Obligee.

IN WITNESS WHEREOF, the undersigned corporation has caused
this agreement to be signed by its proper officers and its
corporate seal to be affixed hereto this _____ day of
_____, 19

Attest:

(Affix seal here)

By: _____
Typed name and title:

NON-COLLUSION AFFIDAVIT

State of New Jersey

ss:

County of _____

I, _____ of the City of

_____ in the County of _____

and the State of _____ of full age, being
duly sworn to law on my oath depose and say that I am

_____ of the firm of _____

_____, the bidder making the
bid for the above named project, and that I executed the
said bid with full authority to do so and that said bidder
has not, directly or indirectly, entered into any agreement,
participated in any collusion, or otherwise taken any action
in restraint of free, competitive bidding in connection with
the above named project, and that all statements contained
in said bid and in this affidavit are true and correct and
made with full knowledge that The Owner relies upon the
truth of the statements contained in said bid and in the
statements contained in this affidavit in awarding the
contract for said project.

I further warrant that no person or selling agency has
been employed or retained to solicit or secure such contract
upon an agreement or understanding for a commission,
percentage, brokerage or contingent fee, except bona fide
established commercial or selling agencies maintained by

_____ (N.J.S.A 52:3415).

_____ (Name of Bidder)

By: _____

_____ (Typed Name and Title)

Subscribed and sworn to before me

this _____ day of _____ 19

_____ (Notary Public of _____)

LIST OF STOCKHOLDERS

<u>Name and Address</u>	<u>Percentage of Ownership</u> <u>(10% or more)</u>

LIST OF SUBCONTRACTORS

Name and Address

Type of Work

AGREEMENT

INDEX

<u>Description</u>	<u>Page Number</u>
AGREEMENT	1
PERFORMANCE BOND	7
LABOR & MATERIAL PAYMENT BOND	10
MAINTENANCE BOND	14
CONTRACTOR'S AFFIDAVIT	17
CONTRACTOR'S RELEASE	19
STATEMENT OF SURETY COMPANY	21

AGREEMENT

This Agreement, made as of the _____ day of _____
19_____, by and between The Township of Brick, 401
Chambersbridge Avenue, Brick, New Jersey, 08723 (hereinafter
called the Owner) and

(Name of Contractor)

(Address of Contractor)

(hereinafter called the Contractor)

WITNESSETH: that whereas the Contractor intends to construct
under Contract No. _____, hereinafter called the Project,
in accordance with the plans, specifications, and other
contract documents prepared by the Owner.

I. PARTS OF CONTRACT

The parties agree that the conditions contained in the
following documents (which comprise and are hereinafter
called the contract documents) are made part of this
Agreement and are binding on both parties as if all
conditions contained in the contract documents were set
forth in this Agreement:

1. Advertisement for Bids
2. Instructions to Bidders
3. Bid
4. Agreement
5. Bonds
6. Releases
7. General Conditions
8. Special Conditions
9. Supplementary Conditions
10. Specifications
11. Drawings
12. Addenda
13. Modifications

II. CONTRACT TIME

Work under this Agreement shall be commenced upon written
"Notice to Proceed" and shall be completed within _____
calendar days of the date specified in the "Notice to
Proceed."

III. SUBCONTRACTORS

The contractor agrees to bind every subcontractor by the terms of the contract documents. The contract documents shall not be construed as creating any contractual relation between any subcontractor and the Owner. Relations between the contractor and his subcontractors are further defined in Article 4.4 of the "General Conditions."

IV. WORK

The contractor agrees to furnish all the necessary labor, materials, equipment, tools and services necessary to perform and complete all work required for the construction of the project in strict compliance with the contract documents herein mentioned, which are hereby made a part of the contract, including the following addenda:

<u>Addendum Number</u>	<u>Date</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

V. PRICES FOR WORK

The Owner shall pay based on the prices in the bid and the contractor shall receive the prices stipulated in the bid as full compensation for everything furnished and done by the contractor under this Agreement, including all work required but not specifically mentioned, and also for all loss or damage arising out of the nature of the work aforesaid, or from the action of the elements, and for all risks of every description connected with the work, and for all expenses incurred by or in consequence of the suspension or discontinuance of the work as herein specified, and for well and faithfully completing the work and the whole thereof, as herein provided.

Progress payments will be made in accordance with Article 8 of the "General Conditions."

The proposed cost for all the work on this contract is

\$ _____.

AGREEMENT

Page 2

VI. WAIVERS

Neither the inspection by the Owner nor any of its agents, nor any order by the Owner for the payment of money nor payment for, nor acceptance of, the whole nor any part of the work by the Owner, nor any extension of time nor any possession taken by the Owner or its employees, shall operate as a waiver of any provision of this Agreement, or of any power herein reserved to the Owner, or any right to damages herein provided, nor shall any waiver of any breach of this contract be held to be a waiver of any other or subsequent breach. Any remedy provided in this Agreement shall be taken and construed as cumulative; that is, in addition to each and every other remedy herein provided and in addition to all other suits, actions, or legal proceedings, the Owner shall also be entitled as of right to a writ of injunction against any breach of any of the provisions of this Agreement.

VII. AUTHORITY AND RESPONSIBILITY OF THE OWNER

All work shall be done under the observation of the Owner. The Owner shall decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, rate of progress of work, interpretation of plans and specifications, and all questions as to the acceptable fulfillment of the Agreement on the part of the contractor.

VIII. SUCCESSORS AND ASSIGNS

This Agreement and all of the covenants hereof shall inure to the benefit of and be binding upon the Owner and the contractor respectively and his partners, successors, assigns and legal representatives. Neither the Owner nor the contractor shall have the right to assign, transfer, or sublet his interests or obligations hereunder without written consent of the other party.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their names:

THE TOWNSHIP OF BRICK

ATTEST:

By: _____

Secretary (Seal)

(Name and Title)

(NAME OF CONTRACTOR)

ATTEST:

By: _____

Secretary (Seal)

(Name and Title)

(ACKNOWLEDGEMENT OF OFFICER OF OWNER ATTESTING CONTRACT)

State of New Jersey

§:

County of Ocean

BE IT REMEMBERED, that on this _____ day of _____, 19 _____,

before me, the subscriber, personally appeared

_____ who, I am satisfied, is the person who signed the within instrument as _____ of The Township OF Brick, the corporation named therein, and he thereupon acknowledged that the said instrument made by the corporation and sealed with its corporate seal, was signed, sealed with the corporate seal, and delivered by him as such officer and is the voluntary act and deed of the corporation, made by virtue of authority from its Township Council.

(Seal)

NOTARY PUBLIC

(ACKNOWLEDGEMENT OF CONTRACTOR, IF A CORPORATION)

State of

§:

County of

On this _____ day of _____ 19 _____,

before me personally came and appeared _____
to me known, who, being by me duly sworn, did depose and say

that he resides at _____,

that he is the _____ of _____

_____, the corporation
described in and which executed the foregoing instrument;
that he knows the seal of said corporation; that one of the
seals affixed to said instrument is such seal; that it was
so affixed by order of the directors of said corporation,
and that he signed his name thereto by like order.

(Seal)

NOTARY PUBLIC

(ACKNOWLEDGEMENT OF CONTRACTOR, IF A PARTNERSHIP)

State of

§:

County of

On this _____ day of _____ 19 _____, before

me personally came and appeared _____,
to me known and known to me to be one of the members of the

firm of _____ described in
and who executed the foregoing instrument, and he
acknowledged to me that he executed the same as and for the
act and deed of said firm.

(Seal)

NOTARY PUBLIC

AGREEMENT

Page 5

(ACKNOWLEDGEMENT OF CONTRACTOR, IF AN INDIVIDUAL)

State of

§:

County of

On this _____ day of _____ 19____, before me
personally came and appeared _____, to
me known and known to me the person described in and who
executed the foregoing instrument and acknowledged that he
executed the same.

(Seal)

NOTARY PUBLIC

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned _____
(name or legal title and address

_____ as PRINCIPAL,
of the Contractor)

and _____, a
(legal title of Surety)
corporation organized and existing under the laws of the

State of _____ as SURETY, are held and
firmly bound into The Township of Brick as OBLIGEE, in full
and just several sums of

_____ DOLLARS

(\$ _____) lawful money of the United States
of America, to be paid to the said OBLIGEE, or its attorney,
successors, or assigns, to the payment of which sums well
and truly to be made, the said PRINCIPAL and SURETY bind
themselves, their heirs, administrators, executors,
successors and assigns, jointly and severally, firmly by
these presents.

WHEREAS, said PRINCIPAL has entered into a certain

contract with said OBLIGEE dated _____,
(hereinafter called the CONTRACT) for

which contract and the contract documents for said work
shall be deemed a part hereof as fully as if set forth
herein.

NOW, THEREFORE, the conditions of this bond shall be such
that:

If the PRINCIPAL shall well, truly and faithfully comply
with and perform the contract in accordance with the
contract documents, at the time and manner provided therein,
and if the PRINCIPAL shall satisfy all claims and demands
incurred in or related to the performance of the contract by
the PRINCIPAL or growing out of the performance of the
contract by the PRINCIPAL and if the PRINCIPAL shall
indemnify completely and shall save harmless the OBLIGEE
from any and all costs and damages which the OBLIGEE may
sustain or suffer by reason of the failure of the PRINCIPAL

AGREEMENT

Page 7

to do so, and if the PRINCIPAL shall reimburse completely and shall pay to the OBLIGEE any and all costs and expenses which the OBLIGEE may incur by reason of any such default or failure of the PRINCIPAL, then this bond shall be void; otherwise, this bond shall be and shall remain in force and effect.

The PRINCIPAL and the SURETY agree that any alterations, changes, or additions to the contract documents, and/or any alterations, changes or additions to the work to be performed under the contract in accordance with the contract documents, and/or any alterations, changes or additions to the contract, and/or any giving by the OBLIGEE of any extensions of time for the performance of the contract in accordance with the contract documents and/or any act of forbearance of either the PRINCIPAL or the OBLIGEE toward the other with respect to the contract documents and the contract and/or the reduction of any percentage to be retained by the OBLIGEE as permitted by the contract documents and by the contract shall not release the PRINCIPAL and the SURETY, or either of them, or their heirs, executors, administrators, successors or assigns, in any manner whatsoever from liability under this bond, and the SURETY, for value received, does waive notice of any such alterations, changes, additions, extensions of time, acts of forbearance, and/or reduction of retained percentage.

If the OWNER and the PRINCIPAL agree to arbitration, then the SURETY shall become a party thereto and be bound by the results of the arbitration.

IN WITNESS WHEREOF, the PRINCIPAL and SURETY have executed this instrument under their several seals this _____ day of _____ 19_____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its proper officers, pursuant to authority of its governing body.

(IF A CORPORATION)

Attest:

By: _____
(Corporate Principal)

(Name and Title)

(Seal)

(Business Address)

(IF INDIVIDUAL OR PARTNERSHIP)

Witness:

(Principal)

(Home Address)

(Business Address)

Witness:

(Principal)

(Home Address)

(Business Address)

SURETY

Attest:

By: _____
(Corporate Surety)

(Seal)

(Name and Title)

(Business Address)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned _____
(name or legal title and address

_____ as PRINCIPAL, and
of Contractor)

_____, a corporation
(legal title of Surety)
organized and existing under the laws of the State of _____

_____, as SURETY, are held and firmly bound unto
The Township of Brick, as OBLIGEE, for the use and benefit
of claimants as hereinbelow defined, in the full and just
several sums of

_____ (\$ _____)
lawful money of the United States of America, to be paid to
the said OBLIGEE, or its attorney, successors or assigns, to
the payment of which sums well and truly to be made, the
same PRINCIPAL and SURETY bind themselves, their heirs,
administrators, executors, successors and assigns, jointly
and severally, firmly by these presents:

WHEREAS, said PRINCIPAL has entered into a certain contract
with said OBLIGEE, dated _____, hereinafter
called the CONTRACT, for _____

_____ which contract
and the contract documents for said work shall be deemed a
part hereof as fully as if set forth herein.

NOW, THEREFORE, the condition of this bond shall be such
that:

If the PRINCIPAL shall promptly make payment to all
claimants as hereinafter defined, for all labor and material
used or reasonably required for use in the performance of
the contract, then this obligation shall be void; otherwise
it shall remain in full force and effect, subject, however,
to the following conditions:

- 1) A claimant is defined as one having a direct contract with the principal or with a subcontractor of the principal for labor, material, or both, used or reasonably required or for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the contract.
- 2) The above named principal and surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
- 3) No suit or action shall be commenced hereunder by any claimant,
 - A) Unless claimant, other than one having a direct contract with the principal, shall have given written notice to any of the following: the principal, the Owner, or the surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the principal, Owner, or surety, at any place where an office is regularly maintained for the transaction of business, or served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
 - B) After the expiration of one (1) year following the date on which principal ceased work on said contract; it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

- C) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project or any part thereof is situated, or in the United States District Court for the district in which the project or any part thereof is situated, and not elsewhere.
- 4) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanic's liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.
- 5) The principal and the surety agree that any alterations, changes or additions to the contract documents, and/or any alterations, changes or additions to the work to be performed under the contract, and/or any giving by the OBLIGEE of any extensions of time for the performance of the contract in accordance with the contract documents and/or any act of forbearance of either the Principal or the OBLIGEE toward the other with respect to the contract documents and the contract and/or the reduction of any percentage to be retained by the OBLIGEE as permitted by the contract documents and by the contract shall not release the principal and the surety or either of them, or their heirs, executors, administrators, successors and assigns, in any manner whatsoever, from liability under this bond, and the surety, for value received, does waive notice of any such alterations, changes, additions, extensions of time, act of forbearance and/or reduction of retained percentage.
- 6) If the Owner and the Principal agree to arbitration, then the Surety shall become a party thereto and be bound by the results of the arbitration.

IN WITNESS WHEREOF, the Principal and Surety have executed
this instrument under their several seals this _____

day of _____ 19____, the name and corporate
seal of each corporate party being hereto affixed and these
presents duly signed by its proper officers, pursuant to the
authority of its governing body.

IN PRESENCE OF:

(IF CORPORATION)

Attest:

By: _____
(Principal)

(Seal)

(Name and Title)

(Business Address)

(IF INDIVIDUAL OR PARTNERSHIP)

Witness:

By: _____
(Principal)

(Name and Title)

By: _____
(Principal)

(Name and Title)

(Business Address)

(SURETY)

Attest:

(Corporate Surety)

(Seal)

(Business Address)

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned _____
(name or legal title and address _____,
as PRINCIPAL, and
of Contractor)

(legal title of surety)
a corporation organized and existing under the laws of the
State of _____, as SURETY, are held and firmly bound
unto The Township of Brick, as OBLIGEE, in the full and just
several sums of

_____ (\$ _____)
lawful money of the United States of America for maintenance
to be paid to the said OBLIGEE or its attorney, successors,
or assigns, to the payment of which sums well and truly to
be made, the said PRINCIPAL and SURETY bind themselves,
their heirs, administrators, executors, successors and
assigns, jointly and severally firmly by these presents;

WHEREAS, said PRINCIPAL has entered into a certain contract
with same OBLIGEE dated _____, (hereinafter
called the contract), for _____

_____, which
contract and the contract documents for said work shall be
deemed a part hereof as fully as if set forth herein.

NOW, THEREFORE, the joint and several conditions of this
Bond are such:

That if the bounden PRINCIPAL shall remedy without cost to
the said OBLIGEE any defects which may develop during a
period of one (1) year from the date of completion and
acceptance of the work performed under said contract,
provided such defects, in the judgment of the OBLIGEE, are
caused by defective or inferior materials or workmanship,
then this part of this obligation shall be void; otherwise,
it shall be and remain in full force and effect.

The PRINCIPAL and the SURETY agree that any alterations,
changes or additions to the contract documents, and/or any
alterations, changes or additions to the work to be
performed under the contract in accordance with the contract
documents, and/or any alterations, changes or additions to
the contract, and/or any giving by the OBLIGEE of any

extensions of time for the performance of the contract in accordance with the contract documents, and/or any act of forbearance of either the PRINCIPAL or the OBLIGEE toward the other with respect to the contract documents and the contract and/or the reduction of any percentage to be retained by the OBLIGEE as permitted by the contract documents and by the contract, shall not release the PRINCIPAL, and the SURETY, or either of them, or their heirs, executors, administrators, successors and assigns, in any manner whatsoever, from liability under this bond, and the SURETY, for value received, does waive notice of any such alterations, changes, additions, extensions of time, acts of forbearance and/or reduction of retained percentage.

IN WITNESS WHEREOF, the PRINCIPAL and SURETY have executed this instrument under their several seals this _____ day of _____ 19_____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its proper officers, pursuant to authority of its governing body.

IN PRESENCE OF:

(IF CORPORATION)

Attest:

By _____
(Corporate Principal)

(Name and Title)
(Seal)

(Business Address)

(IF INDIVIDUAL OR PARTNERSHIP)

Witness:--

By: _____

(Name and Title)

By: _____

(Name and Title)

(Business Address)

(SURETY)

Attest:

By: _____
(Corporate Surety)

(Seal)

(Business Address)

CONTRACTOR'S AFFIDAVIT

State of:

ss:

County of:

Before me, the undersigned, a Notary Public in and for said

County and State, personally appeared _____
(Individual, Partner, or duly authorized representative of
the corporation), who being duly sworn according to the law,
deposes and says that all labor, material, and outstanding
claims and indebtedness of whatever nature arising out of
the performance of the contract of The Township of Brick
with the Contractor have been paid in full.

(Individual, Partner, or duly
authorized representative of
corporate contractor)

(ACKNOWLEDGEMENT OF CONTRACTOR, IF A CORPORATION)

State of:

ss:

County of:

On this _____ day of _____ 19 _____, before me

personally came and appeared _____, to
me known and who, being duly sworn, did depose and say that

he resides at _____, that

he is the _____ of _____

_____, the corporation described in
and which executed the foregoing instrument; that he knows
the seal of said corporation; that one of the seals affixed
to said instrument is such seal; that it was so affixed by
order of the directors of said corporation; and that he
signed his name thereto by like order.

(Seal)

(ACKNOWLEDGEMENT OF CONTRACTOR, IF A PARTNERSHIP)

State of:

ss:

County of:

On this _____ day of _____ 19_____, before me

personally came and appeared _____, to
me known and known to me to be one of the members of the

firm of _____ described in
and who executed the foregoing instrument as and for the act
and deed of said firm.

(Seal)

(ACKNOWLEDGEMENT OF CONTRACTOR, IF AN INDIVIDUAL)

State of:

ss:

County of:

On this _____ day of _____ 19_____,

before me personally came and appeared _____
to me known and known to be the person described in and who
executed the foregoing instrument and acknowledged that he
executed the same.

(Seal)

CONTRACTOR'S RELEASE

KNOW ALL MEN BY THESE PRESENTS THAT

(Contractor)

of _____ County and State of _____
does hereby acknowledge that he has received this _____ day
of _____, 19____, from The Township of Brick the
sum of One Dollar (\$1.00) and other valuable consideration
in full satisfaction and payment of all sums of money owing
payable and belonging to the Contractor by any means
whatsoever, for and on account of a certain agreement
hereinafter called the Contract, between the said Contractor
and The Township of Brick dated _____.

NOW, THEREFORE, the said _____

(Contractor)

(for myself, my heirs, executors and administrators)(for
itself, its successors and assigns) do by these presents
remit, release, quit-claim and forever discharge the said
Township of Brick, its successors and assigns, of and from
all claims and demands arising from or in connection with
the said contract dated _____

_____ and of and from all manner of action
and actions, cause and causes of action and actions, suits,
debts, dues, duties, sum and sums of money, accounts,
reckonings, bonds, bills, specialties, covenants, contracts,
agreements, promises, variances, damages, judgments,
extends, execution, claim and demand, whatsoever in law or
equity, or otherwise which against the said Township of
Brick, its successors or assigns ever had, now have, or
which (I, my heirs, executors, or administrators)(it, its
successors and assigns) hereinafter can, shall or may have,
for, upon or by reason of any matter, cause or thing
whatsoever, from the beginning of the world to the date of
these presents.

IN WITNESS WHEREOF, _____ has
(Contractor)
caused these presents to be duly executed the _____ day
of _____ 19____.

Signed, sealed and delivered
in the presence of:

Witness

Individual Contractor

(Seal)

Witness

Partnership Contractor

By: _____
(Partner)

(Seal)

Attest:

Secretary

Corporate Contractor

By: _____
President or Vice
President

(Seal)

STATEMENT OF SURETY COMPANY

In accordance with the provisions of the Agreement dated
_____ between The Township of Brick (Owner) and
_____(Contractor), the
_____(Surety) Surety on the

Material and Labor Payment Bond of _____
_____(Contractor)

after a careful examination of the books and records of said Contractor or after receipt of an affidavit from the Contractor, which examination of affidavit satisfies Surety that all claims for labor and materials have been satisfactorily settled, hereby approved of the final payment under the Contract Agreement, and by these presents witnesseth that payment to the Contractor of the final estimates shall not relieve Surety of any of its obligations to The Township of Brick as set forth in the said Surety Company Bond.

IN WITNESS WHEREOF, said Surety has hereunto set its hand
and seal this _____ day of _____ 19____.

Attest:

_____ By: _____

(Name and Title)

(Seal)

NOTE: This statement, if executed by any person other than the President or Vice President of the Company, must be accompanied by a certificate issued on the same day showing authority conferred upon the person so signing to execute such instruments on behalf of the Company represented.

GENERAL CONDITIONS

INDEX

<u>Number</u>	<u>Description</u>	<u>Page Number</u>
1.0	GENERAL	1
2.0	DEFINITIONS	1
3.0	CORRELATION AND INTENT OF CONTRACT DOCUMENTS	3
3.1	Intent	3
3.2	Correlation of Documents	4
3.3	Application of Special Requirements	4
3.4	Discrepancies, Errors and Omissions	4
3.5	Additional Instructions and Detailed Drawings	5
3.6	Compliance with Laws	5
3.7	Provisions Required by Law Deemed Inserted	6
4.0	RESPONSIBILITIES AND OBLIGATIONS OF CONTRACTOR	6
4.1	General	6
4.2	Separate Contracts	7
4.3	Mutual Responsibility of Contractors	7
4.4	Subcontracting	7
4.5	Protection of Work and Property	8
4.6	Indemnity	9
4.7	Non-Interference with and Protection of Public	9
4.8	Supervision of Work	9
4.9	Assignment	10
4.10	Labor Provisions	10
4.11	Night and Sunday Work	10
4.12	Wage Rates	10
4.13	Employ Sufficient Labor and Equipment	11
4.14	Access to Work	12
4.15	Examination of the Work	12
4.16	Unacceptable Work	13
4.17	Mistakes of Contractor	13
4.18	Facilities and Utilities	13
4.19	Prices for Work	14
4.20	Suspension of Work	14
4.21	Delays and Extension of Time	14
4.22	Emergency Services to Correct Hazardous Conditions	14
4.23	Private and Public Property	15
4.24	Time for Completion and Liquidated Damages	16
4.25	Access to Records	18

<u>Number</u>	<u>Description</u>	<u>Page Number</u>
5.0	RESPONSIBILITIES AND OBLIGATIONS OF THE OWNER	19
5.1	Land of Owner, Use of, by Contractor	19
5.2	Owner's Right to Take Over the Work	19
5.3	Right of Occupancy	20
5.4	Permits	21
6.0	AUTHORITY OF THE ENGINEER	21
6.1	Engineer's Status During Construction	21
6.2	Engineer's Interpretations and Decisions	22
7.0	CONDUCT OF THE WORK	22
7.1	Quantities of Estimate	22
7.2	Negotiations of Contract Amendments, Change Orders and Extra Work	22
7.3	Extension of Time	26
7.4	Changes Not to Affect Bonds	26
7.5	Claims for Extra Cost	27
7.6	Additional or Substitute Bond	27
7.7	Work to Conform	27
7.8	Record Drawings	28
8.0	FINAL COMPLETION AND PAYMENTS	28
8.1	Progress Schedule	28
8.2	Progress Estimates and Payments	28
8.3	Progress Payments	29
8.4	Payments Withheld	30
8.5	Measurement of Quantities	31
8.6	Substantial Completion	31
8.7	Final Completion and Final Payment	31
8.8	Liens	32
8.9	Acceptance of Final Payment Constitutes Release	32
9.0	MISCELLANEOUS	33
9.1	Notice and Service Thereof	33
9.2	Taxes	33
9.3	Guarantee	33
9.4	Waivers	34
9.5	Patents	34
9.6	Contract Documents	35
9.7	Contractor's Warranty of Title	35
10.0	PREVAILING WAGE RATES	35

GENERAL CONDITIONS

1.0 GENERAL

The general conditions of the contract outline certain general responsibilities of the Owner and the Contractor (who are the parties to the contract).

2.0 DEFINITIONS

Whenever the words defined in this section or pronouns used in their stead occur in the contract documents, they shall have the meanings given herein.

ADDENDA - Written or graphic instruments issued prior to the execution of the agreement which modify or interpret the contract documents by additions, deletions, clarifications or corrections.

AGREEMENT - The written agreement between the Owner and the Contractor covering the work to be performed; other contract documents are attached to the Agreement and made a part thereof as provided herein.

AUTHORITY - The Brick Township Municipal Utilities Authority.

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

BIDDER - Any person, firm or corporation submitting a bid for the work.

BONDS - Bid, performance, payment bonds, maintenance bonds and other instruments of security, furnished by the Contractor and his surety in accordance with the contract documents.

CHANGE ORDER - A written order to the Contractor authorizing an addition, deletion or revision in the work within the general scope of the contract documents, or authorizing an adjustment in the contract price or contract time.

CONTRACT DOCUMENTS - The contract, including advertisement for bids, instructions to bidders, bid, bid bond, agreement, labor and material payment bond, performance bond, notice of award, notice to proceed, change order, drawings, specifications and addenda.

CONTRACT PRICE - The total monies payable to the Contractor under the terms and conditions of the contract documents.

CONTRACT TIME - The number of calendar days stated in the contract documents for the completion of the work.

CONTRACTOR - The person, firm or corporation with whom the Owner has executed the agreement.

DRAWINGS - The part of the contract documents which show the characteristics and scope of the work to be performed and which have been prepared or approved by the Engineer.

ENGINEER - The Engineer is Tariq M.S. Siddiqui, Brick Township Municipal Utilities Authority.

FIELD ORDER - A written order effecting a change in the work not involving an adjustment in the contract price or an extension of the contract time issued by the Resident Engineer to the Contractor during construction.

FINAL CONTRACT ACCEPTANCE - Acceptance of the work after a final inspection has been made and work accepted by the Owner.

NOTICE OF AWARD - The written notice of the acceptance of the bid from the Owner to the successful bidder stating that upon compliance by the successful bidder with the conditions precedent enumerated therein within the time specified, Owner will sign and deliver the Agreement.

NOTICE TO PROCEED - Written communication issued by the Owner to the Contractor authorizing him to proceed with the work and establishing the date of commencement of the work.

OWNER - The Owner is The Township of Brick.

PROJECT - The undertaking to be performed as provided in the contract documents.

RESIDENT ENGINEER - The authorized representative of the Owner who is assigned to the project site or any part thereof.

SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a subcontractor, manufacturer, supplier or distributor, which illustrate how specific portions of the work shall be fabricated or installed.

SPECIFICATIONS - A part of the contract documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standard and workmanship.

SUBCONTRACTOR - An individual, firm or corporation having a direct contract with the Contractor or with any other subcontractor for the performance of a part of the work at the site.

SUBSTANTIAL COMPLETION - That date as certified by the Engineer when the construction of the project or a specified part thereof is sufficiently completed, in accordance with the contract documents, so that the project or specified part can be utilized for the purposes for which it is intended.

SUPPLIER - Any person or organization who supplies materials or equipment for the work, including that fabricated to a special design.

WORK - All labor necessary to produce the construction required by the contract documents and all materials and equipment incorporated or to be incorporated in the project.

WRITTEN NOTICE - Any notice to any party of the agreement relative to any part of the agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative at the work site.

3.0 CORRELATION AND INTENT OF CONTRACT DOCUMENTS

3.1 INTENT

It is the intent of the specifications and plans to describe a complete project to be constructed in accordance with the contract documents. Any work that may reasonably be inferred from the specifications or plans as being required to produce the intended result shall be supplied whether or not it is specifically called for. An omission from one drawing, if shown elsewhere on the contract drawings, is considered to be part of the contract work. The contract documents comprise the entire agreement between the Owner and the Contractor.

3.2 CORRELATION OF DOCUMENTS

The contract documents are complementary; that is, what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the contract documents, he will call it to the attention of the Engineer in writing before proceeding with the work affected thereby.

If a conflict is found on the drawings, figure dimensions shall govern over scale dimensions.

3.3 APPLICATION OF SPECIAL REQUIREMENTS

Each Contractor and Subcontractor shall be responsible for making himself aware of and shall specifically comply with all special requirements of the contract documents.

It shall be the responsibility of each Contractor and Subcontractor to be aware of, and comply with such other conditions included in the contract documents as may be applicable to the contract. It is not intended that all requirements with regard to the conduct of the work be included in any one section of the contract documents.

3.4 DISCREPANCIES, ERRORS AND OMISSIONS

The plans and specifications are intended to be explanatory of each other, but should any discrepancy or any misunderstanding arise as to the import of anything contained therein, the interpretation and decision of the Engineer shall be final and binding.

Any correction of errors or omissions in plans and specifications may be made by the Engineer when such correction is necessary for the proper fulfillment of the intention as construed by him. Where correction of errors or omissions, except as provided in the following two paragraphs, adds to the amount of work to be done by the Contractor, compensation for said additional work shall be made under the item for extra work, except where the additional work may be classed under some item of work for which a unit price is included in the bid.

Any work performed after the discovery of an error or omission in the plans or specifications, without the written approval of the Resident Engineer shall be at the risk and expense of the Contractor.

All work, materials and equipment indicated on the plans and not mentioned in the specifications, or vice versa, and all work and materials usual and necessary to make the work complete in all its parts, whether or not they are mentioned in the specifications, shall be furnished and executed the same as if they were called for on both the plans and specifications, but will not entitle the Contractor to consideration of any claim for extra compensation.

On all work of a remodeling nature or installation to an existing structure the actual situation of the site controls any information given which may affect the quantity, size and quality of materials required for a satisfactorily completed contract, whether or not such information is indicated on the plans or within the specifications.

3.5 ADDITIONAL INSTRUCTIONS AND DETAILED DRAWINGS

The Contractor may be furnished supplementary working drawings as necessary to carry out the work included in the contract. Supplementary working drawings will be issued when necessary to show changes or define the work in more detail and they shall also be considered as contract plans.

3.6. COMPLIANCE WITH LAWS

The Contractor shall keep fully informed of all existing and future state and national laws and municipal ordinances and regulations in any manner affecting those engaged or employed in the work, the materials and equipment used in the work, or the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the specifications or other documents for the work in relation to any such law, ordinance, regulation, order or decree, the Contractor shall forthwith report the same to the Resident Engineer in writing. The Contractor shall at all times observe and comply with, and cause all his agents and employees to observe and comply with all such existing and future laws, ordinances, regulations, orders and decrees, and he shall protect and indemnify the Owner, its officers, and agents against any claim or liability arising from or based upon violation of any such law, ordinance, regulation, order or decree, whether by himself or his employees.

Unless legal construction of the contract states to the contrary elsewhere in the contract documents, the law of the place or building shall govern the construction of this contract.

The Contractor shall comply with the Department of Labor, Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596) and under Section 107 of the Contract Work Hours and Safety Standard Act (PL 91-54).

The Contractor's attention is directed to the provisions of Section 4 (b) (4) of The Occupational Safety and Health Act of 1970 as follows,

"Nothing in this act shall be construed to supersede or in any manner affect any workman's compensation law or to enlarge or diminish or affect in any manner the common law or statutory rights, duties, or liabilities of employers and employees arising out of, or in the course of, employment."

3.7 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law or clause required by law to be inserted in this contract shall be deemed to be inserted herein, and the contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the contract shall forthwith be physically amended to make such insertion.

4.0 RESPONSIBILITIES AND OBLIGATIONS OF CONTRACTOR

4.1 GENERAL

The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications, in accordance with the drawings covered by this contract any and all supplemental plans and drawings, and in accordance with the directions of the Resident Engineer as given from time to time during the progress of the work. He shall furnish, erect, maintain, and remove such construction plant and such temporary works as may be required.

All work shall be done under the direct supervision of the Contractor. The Contractor shall provide a safe place for the performance of the work by the contractors, suppliers, and their employees, and for access, use, work, or occupancy by all authorized persons.

The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the contract documents, and shall do, carry on, and complete the entire work to the satisfaction of the Owner and Engineer.

The Contractor shall in no way be relieved of his responsibility under this contract by any right of the Resident Engineer to give permission or issue orders relating to any part of the work, by any such permission given or orders issued, or by failure of the Resident Engineer to give such permission or issue such orders.

4.2 SEPARATE CONTRACTS

The Contractor shall coordinate his operations with those of other contractors. Cooperation will be required in the arrangement for the storage of materials and in the detailed execution of the work. The Contractor and the subcontractors, shall keep informed of the progress and the work details of other contractors and shall notify the Resident Engineer immediately of lack of progress or defective workmanship on the part of other contractors. Failure of a Contractor to keep informed of the work progressing on the site and failure to give notice of lack of progress or defective workmanship of others shall be construed as acceptance by him of the status of the work as being satisfactory for proper coordination with his own work.

4.3 MUTUAL RESPONSIBILITY OF CONTRACTORS

If, through acts of neglect on the part of the Contractor, any other Contractor or subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other Contractor or subcontractor by agreement if such other Contractor or subcontractor will also settle. If such other Contractor shall assert any claim against the Owner on account of any damage alleged to have been sustained the Owner shall notify the Contractor, who shall indemnify and save harmless the Owner against any such claims.

4.4 SUBCONTRACTING

- (A) The Contractor may utilize the services of specialty subcontractors on those parts of the work which, under normal contracting practices, are performed by specialty subcontractors.
- (B) The Contractor shall not assign or sublet any part of the work without prior written acceptance by the Owner. Acceptance by the Owner will be based on written statements from the Contractor containing such information on the requested assignment as the Owner may require. Acceptance of subcontractors by the Owner

will not be made until after award of the contract of the Contractor.

- (C) The Contractor shall be as fully responsible to the Owner for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.
- (D) The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of the general conditions and other terms of the contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract as the Owner may exercise over the Contractor under any provisions of the contract documents.
- (E) Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

4.5 PROTECTION OF WORK AND PROPERTY

The Contractor shall continuously maintain adequate protection of all his work and materials from damage or theft and shall protect the Owner's property and all adjacent property from injury or loss arising in connection with activities under this contract. The Contractor shall make good any such damage, injury, or loss, except such as may be directly due to errors in the contract documents or such as may be caused by agents or employees of the Owner.

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work. He shall take all necessary precautions for the safety of and will provide the necessary protection to prevent damage, injury or loss to all employees on the work and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavement, roadway, structures and utilities not designated for removal, relocation or replacement in the course of construction. He shall designate a responsible member of his organization on the work, whose duty shall be the prevention of accidents, and the name of the person so designated shall be reported to the Owner in writing. In an emergency affecting the safety of life, or of the work or

adjoining property, the Contractor, without special instruction or authorization from the Resident Engineer is hereby permitted to act at his discretion to prevent such threatened loss or injury, and he must take such action as instructed or authorized by the Resident Engineer.

Nothing in this contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached to the work or the soil, but all such materials shall, upon being so attached or affixed, become the property of the Owner.

4.6 INDEMNITY

The Contractor shall indemnify and save harmless the Owner and the Owner's agents, and employees, from and against all losses and claims, demands, payments, suits, actions, recoveries, and judgements of every nature and description brought or recovered against them by reason of any act or omission of the said Contractor, his subcontractors, his agents, or employees, in the execution of the work or in guarding same.

4.7 NON-INTERFERENCE WITH AND PROTECTION OF PUBLIC

The Contractor shall conduct his work so as to interfere as little as possible with private business and public travel. Wherever necessary or required, and at his own expense, he shall maintain fences, furnish watchmen, maintain lights and take such precautions as may be necessary to protect life and property.

4.8 SUPERVISION OF WORK

The Contractor shall give the work the constant attention necessary to facilitate the progress thereof and shall cooperate with the Resident Engineer in every possible way.

At all times, the Contractor shall have as his agent on the work a competent superintendent, who is acceptable to the Owner and capable of reading and thoroughly understanding the plans and specifications. The superintendent on the work shall have full authority to act for the Contractor and to execute the orders or the directions of the Resident Engineer without delay and supply promptly such materials, equipment, tools, labor and incidentals as may be required. It shall be the responsibility of the superintendent to coordinate the work of all subcontractors.

The Contractor shall not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors upon or about the work embraced in this contract.

4.9 ASSIGNMENT

The Contractor shall constantly give his personal attention to the faithful prosecution of the work, shall keep the same under his personal control, shall not assign, by power of attorney or otherwise, or sublet the work as a whole or substantial part of whole, without the previous written consent of the Owner and shall not either legally or equitably assign any of the monies payable under this agreement, or his claim thereto, unless by and with the like consent of the Owner and the surety on the Bonds.

4.10 LABOR PROVISIONS

The Contractor shall employ only competent persons to perform the work, and shall discharge, whenever ordered to do so by the Owner any employee who is disorderly or whose conduct in the opinion of the Owner is detrimental to the prosecution of the work.

No person whose age or physical condition is such as to make his employment dangerous to his health and safety or to the health and safety of others shall be employed on the work.

4.11 NIGHT AND SUNDAY WORK

No work shall be done at night or on Sunday except (1) usual protective work, such as pumping and the tending of lights, fires and heating apparatus, (2) work done in case of emergency threatening injury to persons or property, or (3) if all the conditions set forth in the next paragraph below are met.

No work other than included in (1) and (2) above shall be done at night except when (A) in the opinion of the Resident Engineer the work will be of advantage to the Owner and can be performed satisfactorily at night, (B) the work will be done by a group organized for regular and continuous night work, and (C) the Resident Engineer has given written permission for such night work.

4.12 WAGE RATES

All laborers, workers and mechanics shall be paid the prevailing rate of wage for the type of work to be done in the territory in which it is to be performed. The violation of the foregoing provision shall constitute a breach of the

contract, and the foregoing provisions shall be considered to be a contract for the benefit of the workers, laborers and mechanics upon which such laborers, workers, and mechanics shall have the right to maintain action for the difference between the prevailing rate of wage and the rate of wage actually received by them. In case any dispute arises as to the amount of the prevailing rate of wage, such dispute shall be referred to the Commissioner of Labor of the State of New Jersey, or to such other person as will be designated by the Commissioner of Labor as an arbitrator to settle such dispute, and the parties shall be bound by the decision of such arbitrator.

The Contractor shall note that the "Prevailing Wage Rate Determination" pursuant to Chapter 150 of the New Jersey Laws of 1963, New Jersey Department of Labor and Industry, of current date and applicable to the location of the work, is made a part of this contract. Prevailing wage rates are included at the end of this Section.

Contractors and subcontractors performing the described work shall post the prevailing wage rates for each craft and classification involved as herein determined in prominent and easily accessible places at the site of the work or at such place or places as are used to pay workmen their wages.

The payroll of each Contractor and each subcontractor must be certified as follows:

"I certify that the payroll is correct and complete, that the wage rates contained therein are not less than the applicable rates contained in the wage decision of the New Jersey Department of Labor and that the classification set forth for each laborer or mechanic conforms with the work he performs."

SIGNATURE

Typed Name and Title

4.13 EMPLOY SUFFICIENT LABOR AND EQUIPMENT

If in the opinion of the Resident Engineer the Contractor is not employing sufficient labor and equipment to complete this contract within the time specified, the Resident Engineer may, after giving written notice, require the Contractor to employ such additional labor and equipment as

may be necessary to enable the work to progress properly. If the Contractor continues after receiving such notice to prosecute the work in an insufficient manner, the Owner may terminate the contract or take over part of the work as specified in Article 5.2 of the General Conditions entitled "OWNER'S RIGHT TO TAKE OVER THE WORK."

4.14 ACCESS TO WORK

For purposes already specified and for any other purpose, the Owner, the Engineer and their agents and employees may enter upon the work and the premises used by the Contractor and the Contractor shall provide safe and proper facilities therefor.

Representatives of Federal, State, County and Local Government Departments may enter the work site for the purpose of inspection and verifying that their requirements are being fulfilled. The Contractor shall provide them the same facilities as he would the Owner.

4.15 EXAMINATION OF THE WORK

The Owner, the Engineer, and their representatives, at all times, shall be furnished with every reasonable facility for ascertaining that the equipment and materials used and employed and the workmanship are in accordance with the requirements and intentions of the contract documents. All work done and all materials furnished shall be subject to their inspection and acceptance. If any work should be covered up without acceptance or consent of the Resident Engineer, it must be uncovered for examination at the Contractor's expense, if required by the Resident Engineer.

Reexamination of questioned work may be ordered by the Resident Engineer and if so ordered, the work must be uncovered by the Contractor. If such work is found in accordance with the contract documents, the Owner shall pay the cost of re-examination as extra work, but if such work is found not in conformance with the contract documents the cost of re-examination and replacement shall be at the Contractor's expense.

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contract as prescribed, and unacceptable work shall be made good and unsuitable materials shall be rejected notwithstanding that such unacceptable work and materials have been previously overlooked and accepted on estimates for payment. All work

shall be tested to the satisfaction of the Owner and the Resident Engineer before acceptance.

4.16 UNACCEPTABLE WORK

The Contractor shall promptly remove from the premises all work and materials rejected by the Resident Engineer as failing to conform to the contract documents, whether incorporated or not, and the Contractor shall promptly replace and re-execute his own work in accordance with the contract.

If the Contractor does not correct such defective work or remove and replace such rejected work within a reasonable time, all as specified in a written notice, the Owner may have the deficiency corrected or the rejected work removed and replaced. All direct or indirect costs of such correction or removal and replacement, including compensation for additional professional services, shall be paid by the Contractor, and an appropriate deductive change order shall be issued. The Contractor will also bear the expenses of making good all work of others destroyed or damaged by correction, removal or replacement of his defective work.

4.17 MISTAKES OF CONTRACTOR

The Contractor shall make good any defect, omission, or mistake for which he or his employees are responsible, or he shall pay to the Owner all expenses, losses, and damages incurred therefrom as determined by the Resident Engineer.

4.18 FACILITIES AND UTILITIES

The Contractor shall be deemed to have examined the site and to have secured full knowledge of all conditions under which the work is to be executed and completed, including the available roadway, rail and other approaches to the site and the space available for work areas, storage and for temporary offices and sheds.

The site and approach facilities are to be used with due regard for the Owner's requirements and the requirements of others who may have been engaged by the Owner. If it should become necessary to move the materials or facilities of the Contractor, he shall do so upon request of the Owner, and any expense so incurred shall be borne by the Contractor unless the request involves a movement from a previously approved working or storage area.

4.19 PRICES FOR WORK

The Owner shall pay, and the Contractor shall receive, the prices stipulated in the Bid Form as full compensation for everything furnished and done by the Contractor under this contract, including all work required but not specifically mentioned, and also for all loss or damage arising out of the nature of the work aforesaid, from the action of the elements, or from any unforeseen obstruction or difficulty encountered in the prosecution of the work, for all expense incurred by or in consequence of the suspension or discontinuance of the work as herein specified, and for well and faithfully completing the work and the whole thereof, as herein provided.

4.20 SUSPENSION OF WORK

Should the Owner be prevented or enjoined from proceeding with the work either before or after the start of construction by reason of any litigation or other reason beyond the control of the Owner, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay, but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with such determination to be set forth in writing.

4.21 DELAYS AND EXTENSION OF TIME

If the Contractor is delayed at any time in the progress of the work by any act or neglect of the Owner or of any employee or by changes ordered in the work, or by lockouts, fire, unavoidable casualties, or by delay authorized by the Resident Engineer or by any cause which the Resident Engineer shall decide to justify the delay, then the time of completion may be extended for such reasonable time as the Owner may decide.

No such extension shall be made for a delay occurring more than ten (10) days before a claim therefor is made in writing to the Resident Engineer. In the case of a continued cause of delay, only one claim is necessary.

4.22 EMERGENCY SERVICES TO CORRECT HAZARDOUS CONDITIONS

The Contractor shall maintain a telephone number at all times after regular working hours, including weekend and holidays, where he or his representative shall be prepared to act to correct conditions on the site deemed to constitute an emergency by either the Owner, his designated

agent, the Resident Engineer, or local authorities but shall not wait for instructions before proceeding to properly protect both life and property. If a condition on the site requires attention after working hours, either the OWNER, his designated agent, Resident Engineer, or local authority shall call the Contractor or his representative at the emergency telephone number, identify himself and describe the emergency condition. The Contractor is expected to dispatch men and equipment to adequately institute corrective measures within two (2) hours. If for some reason the Contractor or his representative cannot be reached at the emergency number after a reasonable time (1/2 hour), the Owner shall have the right to initiate corrective measures immediately.

In the event that the Contractor fails to maintain safe job conditions and traffic conditions, including, but not limited to, trench settlement and hazardous piling or storage of backfill or construction materials, after failure of the Contractor to commence substantial steps at the jobsite to rectify the situation within two (2) hours of the time the Contractor has been notified of the unsafe condition, the Owner may hire guards, take such precautions, make such repairs and take any other steps which the Owner or the Owner's agent in its discretion, considers necessary to protect the property, persons, or the Owner. The cost of any of these precautions, guards, or steps shall be deducted from the payments due the Contractor, and the Contractor will be billed for these services, work and material at prevailing rates.

4.23 PRIVATE AND PUBLIC PROPERTY

The Owner will acquire all property including rights-of-way and easements necessary for construction. Any land and access thereto not specifically shown to be furnished by the Owner that may be required for temporary construction facilities or for storage of materials shall be provided by the Contractor with no liability to the Owner. The Contractor shall confine his apparatus and storage to such additional areas as he may provide at his expense.

The Contractor shall not enter upon private property for any purpose without obtaining permission of the property owner and he shall be responsible for the preservation of all public property, trees, monuments, structures and improvements, along and adjacent to the street or right-of-way, and shall use every precaution necessary to prevent damage or injury thereto. He shall use suitable precautions to prevent damage to pipes, conduits, and other underground structures, and shall protect carefully all

monuments and property marks from disturbance or damage until an authorized agent has witnessed or otherwise referenced their location and shall not remove them until directed.

4.24 TIME FOR COMPLETION AND LIQUIDATED DAMAGES

The contract documents are intended to be between the Contractor and the Owner. The date of beginning and the time for completion as specified in the agreement of the work to be done hereunder are essential conditions of this contract, and it is mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the "Notice to Proceed".

The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed by and between the Contractor and the Owner that the time for the completion of the work described herein is a reasonable time for completion, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

The Contractor and the Owner recognize that delay in completion of the project will result in damage to the Owner in terms of the effect of the delay in the use of the project, and will also result in additional cost to the Owner for engineering, inspection and administration of the contract. Because some of this damage is difficult or impossible to estimate, the parties agree that if the Contractor fails to complete the project and each and every part and appurtenance thereof fully, entirely and in conformity with the provisions of the contract within the time stated in the contract, the Contractor shall pay the Owner liquidated damages, in accordance with the following schedule, in lieu of the above stated actual damage. Such liquidated damages shall be paid for each and every calendar day, as hereinafter defined, that he is in default on time to complete the work.

SCHEDULE OF LIQUIDATED DAMAGES FOR EACH CONSECUTIVE
CALENDAR DAY OF OVERRUN IN CONTRACT TIME

One (1) to Fifteen (15) Days
beyond Contract Time Limits . . Five Hundred (\$500.00)
Dollars per calendar day.

Sixteen (16) to Thirty (30)
Days beyond Contract Time
Limits One Thousand (\$1000.00)
dollars per calendar day.

Greater than Thirty (30) Days
beyond Contract Time Limits. . Two Thousand (\$2000.00)
dollars per calendar day.

If the completion date or revised completion date of the contract is such that final landscaping cannot be performed due to seasonal restrictions, an extension of time to begin at the startup of the next planting and seeding season will be allowed to complete that portion of the contract. If the Contractor extends the final landscaping beyond this additional planting season, liquidated damages will be charged for the planting work.

It is further agreed that time is of the essence of each and every portion of this contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever, and where under the contract an additional time is allowed for the completion of any work, the new time limit fixed by such extension shall be of the essence of this contract, provided that the Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner, provided further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due to:

- (A) Any preference, priority or allocation order duly issued by the United States Government,
- (B) Unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, or of the public enemy,

acts of the Owner, acts of another Contractor in the performance of a contract with the Owner, strikes, fires, floods, epidemics, quarantine restrictions, freight embargoes, and severe weather, and

- (C) Any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections (A) and (B) above.

Provided, further, that the Contractor, within ten (10) days from the beginning of such occurrence unless the Owner shall grant a further period of time prior to the date of final settlement of the contract, shall notify the Owner, in writing, of the causes of the delay. The Owner shall ascertain the facts and extent of the delay and notify the Contractor within a reasonable time of its decision in the matter.

If the Contractor does not finish his work within the time for completion specified, the Owner shall have full authority to and may deduct and retain from the final estimate an amount to cover the actual cost of inspection services paid by the Owner from the time of completion specified and the date the Contractor fully completes his contract.

Extensions of time may be granted by the Owner by reason of unusual difficulty or for other causes deemed by the Owner to be good and sufficient, and the Owner will waive the inspection costs aforesaid for the time of such extensions provided, however, that the Contractor shall pay any other cost or damage attendant upon or resulting from any and all such extensions, and provided further that requests for extensions shall be accompanied by an approval, in writing, by the surety company appearing as such on the bonds furnished by the Contractor in accordance with this contract.

4.25 ACCESS TO RECORDS

The Contractor shall maintain books, records, documents and other evidence directly pertinent to performance of work under this agreement in accordance with accepted professional practice, appropriate accounting procedures and practices. The Owner and the New Jersey Department of Labor and Industry or any of their duly authorized representatives shall have access to such books, records, documents and other evidence for the purpose of inspection, audit and copying. The Contractor will provide proper facilities for such access and inspection.

5.0 RESPONSIBILITIES AND OBLIGATIONS OF THE OWNER

5.1 LAND OF OWNER, USE OF, BY CONTRACTOR

The Owner shall provide the necessary land and easements upon which the work under this contract is to be done, and will, so far as is necessary, permit the Contractor to use as much of the land and easements as is required for the erection of temporary construction facilities and storage of materials, together with the right of access to same, but beyond this, the Contractor shall provide, at his cost and expense, any additional land required.

5.2 OWNER'S RIGHT TO TAKE OVER THE WORK

If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed to take over his affairs, or if he should fail to prosecute his work with due diligence and carry the work forward in accordance with his work schedule and the time limits set forth in the contract documents, or if he should fail to substantially perform one or more of the provisions of the contract documents to be performed by him, the Owner may serve written notice on the Contractor, stating its intention to exercise one of the remedies hereinafter set forth and the grounds upon which the Owner bases its right to exercise such remedy.

In any event, unless the matter complained of is satisfactorily cleared within ten (10) days after service of such notice, the Owner, without prejudice to any other right or remedy, may exercise one of such remedies at once.

- (A) The Owner may terminate the services of the Contractor, which termination shall take effect immediately upon notice thereof on the Contractor and his surety, whereupon the surety shall have the right to take over and perform the contract. If the surety does not commence performance of the contract within ten (10) days after service of the notice of termination, the Owner may take over the work, take possession of and use all materials that have been delivered to the site and paid for, and prosecute the work to completion by such means as it shall deem best. In the event of such termination of his service, the Contractor shall not be entitled to any further payment under his contract until the work is completed and accepted. If the Owner takes over the work and if the unpaid balance of the contract price when the Owner takes over the work exceeds the cost of completing the work, including

compensation for any damages or expenses incurred by the Owner through the default of the Contractor, such excess shall be paid to the Contractor. In such event, if such cost, expenses, and damages shall exceed such unpaid balance of the contract price, the Contractor and his surety shall pay the difference to the Owner. Such costs, expenses and damages shall be certified by the Engineer.

- (B) The Owner may take control of the work and either make good the deficiencies of the Contractor itself or direct the activities of the Contractor in doing so, employing such additional help as the Owner deems advisable. In such event the Owner shall be entitled to collect from the Contractor and his surety, or to deduct from any payment then or thereafter due the Contractor, the costs incurred by it through the default of the Contractor, provided the Owner approves the amount thus charged to the Contractor.
- (C) The Owner may require the surety on the Contractor's bond to take control of the work at once and see to it that all the deficiencies of the Contractor are made good with due diligence. As between the Owner and the surety, the cost of making good such deficiencies shall all be borne by the surety. If the surety takes over the work, either upon termination of the services of the Contractor or upon instructions from the Owner to do so, the provisions of the contract documents shall govern in respect to the work done by the surety, the surety being substituted for the Contractor as to such provisions including provisions as to payment for the work and provisions of this section as to the right of the Owner to do the work itself or to take control of the work.

5.3 RIGHT OF OCCUPANCY

The Owner shall have the right if necessary, to take possession of and to use any completed or partially completed portions of the work, even if the time for completing the entire work or such portions of the work has not expired and even if the work has not been finally accepted. Such possession and use shall not constitute final contract acceptance of such portions of the work. The Owner shall also have the right to enter the premises for the purpose of doing work not covered by its contract with the Contractor.

5.4 PERMITS

The Owner, at his own expense, will obtain certain permits from the Federal Government, State, County and other agencies as required for the project. The permits are listed in the "Special Conditions." The Contractor, at his own expense, shall obtain permits to use explosives for rock excavation and such other permits as are required by law to be obtained by the Contractor. When necessary or appropriate, the Contractor shall assist the Owner in the acquisition of permits.

6.0 AUTHORITY OF THE ENGINEER

6.1 ENGINEER'S STATUS DURING CONSTRUCTION

The Engineer shall act as the Owner's consultant in support of and through the Resident Engineer. The duties and responsibilities and the limitations of authority of the Engineer during construction are set forth in these general conditions and shall not be extended without written consent of the Owner and the Engineer.

Neither the Engineer nor the Resident Engineer is responsible for the Contractor's means, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and will not be responsible for Contractor's failure to perform the work in accordance with the contract documents.

The Engineer will have the authority to disapprove or reject work which is defective, and will also have authority to require special inspection or testing of the work whether or not the work is fabricated, installed or completed.

Neither the Engineer's authority to act under this Article nor any decision made by him in good faith either to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Engineer to the Contractor, any subcontractor, any of their agents or employees or any other person performing any of the work.

The Engineer will issue a final Certification for Payment based on the recommendations of the Resident Engineer indicating the work has been completed in accordance with the Contract Documents, with exceptions noted thereon.

The Engineer will witness the start up and testing of the equipment and will approve the work for final acceptance.

6.2 ENGINEER'S INTERPRETATIONS AND DECISIONS

The Engineer, through the Resident Engineer, will issue with reasonable promptness such written clarifications or interpretations (in the form of drawings or otherwise) as he may determine necessary for the proper execution of the work, such clarifications and interpretations to be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the Contractor believes that a written clarification and interpretation entitles him to an increase in the contract price or contract time, he may make a claim therefor as provided in Article 7.

The Engineer will be the initial interpreter of the terms and conditions of the contract documents and the judge of the performance thereunder. In his capacity as interpreter and judge he will exercise his best efforts to insure faithful performance by both the Owner and the Contractor. He will not show partiality to either and shall not be liable for the results of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the work or the interpretation of or performance under the contract documents shall be referred initially to the Resident Engineer who will refer it to the Engineer for decision, which he shall render in writing within a reasonable time.

7.0 CONDUCT OF THE WORK

7.1 QUANTITIES OF ESTIMATE

Wherever the estimated quantities of work to be done and materials to be furnished under this contract are shown in any of the documents, including the bid, they are given for use in comparing bids and the right is specially reserved except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the OWNER to complete the work contemplated by this contract, and such increase or decrease shall not give cause for claims or liability for damages. A variation in actual quantities from bid quantities that exceeds fifteen percent (15%) will require an evaluation as to whether or not renegotiation is necessary.

7.2 NEGOTIATIONS OF CONTRACT AMENDMENTS, CHANGE ORDERS AND EXTRA WORK.

This section covers changes in contract scope or contract time. Changes in contract scope shall be work which was not included in the scope of the work at the time of forming the

contract, and will not be construed to mean work for which unit bids were received but the actual quantities differ from the bid quantities as a result of field measurement or field survey. Changes in the unit prices of cut categories will not be renegotiated if actual quantities deviate from bid quantities.

The Resident Engineer, without invalidating the contract, may order extra work or make changes in the work, adjusting the contract amount or contract time by a written change order. All such work shall be executed under the conditions of the original contract. The Owner or his representative shall have the authority to make minor changes in the work not involving extra cost and not inconsistent with the scope of the work. On changes involving extra work or changes in contract time, the Resident Engineer will direct the Contractor in writing to proceed with the designated changes. The Contractor shall commence work upon receipt of the written order. Until the value of the change order has been agreed upon by the Resident Engineer and Contractor using Methods A, B or C described hereafter, time and material records will be kept as described in Method C.

Except in an emergency endangering life or property, no extra work or change shall be made unless ordered in writing by the Resident Engineer and no claim for an addition to the contract amount shall be valid unless so covered.

The value of such extra work or change shall be determined by one or more of the following:

METHOD A Unit prices or combinations of unit prices which formed the basis of the original contract or included in previous change orders and which shall be considered to include all Contractor's overheads and profit. The Resident Engineer, at his sole discretion, may use prices for items of similar work contained in a Contractor's bid item breakdown for lump sum contracts. These items shall be considered to include allowances for overhead and profit.

METHOD B A lump sum based on the Contractor's estimate and accepted by the Resident Engineer which shall include overhead and profit in accordance with the allowances given in Method C below.

METHOD C Actual Costs, Plus Overhead and Profit

Actual Costs are defined as follows:

- (A) Hourly actual wage rate for all workers directly assigned to the specific operation including the foreman, but excluding wages and salaries paid to other administrative or supervisory personnel.
- (B) Fringe benefits including, but not limited to, health and welfare, pension and vacation funds.
- (C) Actual cost of all material used and incorporated into the permanent construction, including freight and delivery charges as shown on original receipted bills. For all materials not incorporated into permanent construction, but necessarily involved in the performance of the work, the Contractor shall receive an amount equal to the actual cost of such materials when they are no longer required for the performance of the work.
- (D) Actual additional cost of Contractor's general, public liability and property damage insurance, workman's compensation insurance, social security tax, state unemployment compensation contributions and state temporary disability benefits, and other types of insurance which may be required for the performance of the increased work.
- (E) Actual Contractor's equipment cost, including fuels and lubricants. If not in conformance with the associated equipment distributor's standard rental rates or the rental rate blue book rates the Contractor must submit documentation for the rate. Equipment and tools having a value of less than \$50 are considered to be part of overhead as defined below. Fuels and lubricants consumed by equipment shall be included in their rental costs.
- (F) Costs for the preparation of shop drawings or cost estimates which cost shall be indicated separately in the change order. On change orders initiated by the Contractor, the cost of shop drawings or cost estimates will not be allowable.
- (G) Actual cost of subcontracted work.

Allowable Percentages for Overhead and Profit shall be as follows:

- (A) For extra work not in excess of \$10,000., the Contractor may add 10% to cover job site and home office overheads and 10% profit (excluding subcontracted work).
- (B) For subcontracted work not in excess of \$10,000., a total markup of 10% is allowed to cover the contractor's overheads and profit.
- (C) For extra work in the range of \$10,000 to \$100,000., the overheads and profit will be negotiated between the Contractor and the Resident Engineer.
- (D) Change Order work shall commence promptly upon receipt of a fully executed change order or upon written directive by the Resident Engineer to proceed with the work. Any delays in starting or expeditiously pursuing the work will be charged against the contractor.

In signing a Change Order, the Contractor signifies that his markups per overhead and profit include job site and home office overhead.

The Resident Engineer shall select a combination of any or all of the above methods for determining the charge for contract amendments, change orders or extra work.

If the Resident Engineer selects Method A, "Unit Prices," or Method B, "Lump Sum," the Contractor must furnish sufficient documentation to allow the Resident Engineer to determine the reasonableness of the unit price or lump sum proposed. This documentation may include, but is not limited to, such items as purchase orders or invoices for equipment or material which is to be incorporated into the work, detailed quantities of material to be used, detailed estimates of labor and equipment, and any other such items which may be required. Documentation for the unit price and lump sum charges must be submitted in the same format required for the submission of costs under Method C.

If the Resident Engineer selects Method C, the Contractor shall keep daily records of such extra work and shall notify the Resident Engineer 24 hours before commencement of work. The daily records shall include the names of men employed and hours worked, materials and equipment incorporated, and machinery used, if any, in the prosecution of such extra

work. This daily record shall be signed by the Contractor's authorized representative and (if accepted) by the Resident Engineer verifying the work accomplished and the materials and labor expended. Separate daily records shall be submitted for each contract change order. Payment for extra work shall be made in accordance with the Resident Engineer's accepted records of time, rentals and materials used. Rental of equipment shall be charged against the extra or changed work only for the actual time the equipment is used specifically therefor.

If said work requires the use of machinery not on the job, the cost of transportation of such machinery to and from the work, not exceeding a distance of 100 miles, shall be added to the rental.

Changed work shall be adjusted, with separate consideration for the work added and the parts omitted. Amount of adjustment for parts omitted shall be estimated at the time omission of work is authorized and the agreed adjustments will be deducted from or added to the subsequent monthly estimates.

The Contractor's attention is especially called to the fact that he shall be entitled to no claim for damages from anticipated profits on any portion of work that may be omitted.

7.3 EXTENSION OF TIME

When the contract is amended or extra work is ordered near the completion of the contract or when changes are ordered at any time during the progress of the work, which requires an unavoidable increase of time for the completion of the contract, in the opinion of the Resident Engineer, a suitable extension of the time for completion shall be granted as a part of the Change Order for the extra work.

7.4 CHANGES NOT TO AFFECT BONDS

It is distinctly agreed and understood that any changes made in plans and specifications for this work or otherwise in the scope of work to be performed by the Contractor, whether such changes increase or decrease the amount thereof, or any change in the manner or time of payments made by the Owner to the Contractor shall in no way annul, release or affect the liability and surety on the bonds given by the Contractor.

7.5 CLAIMS FOR EXTRA COST

If the Contractor claims that any changes in the work or any clarification or interpretations by means of drawings or otherwise involve extra cost, he shall give the Resident Engineer written notice thereof within twenty (20) calendar days after receipt of such instructions or of notice of such changes and, in any event, before proceeding to carry out such instructions to put such changes into effect, except in case of an emergency endangering life or property. In all such cases the Contractor shall keep a correct account of the extra cost in such form as the Resident Engineer may direct and shall present such account supported by receipts to the Resident Engineer who shall pass upon the claim. The Owner shall be entitled to reject any claim for extra cost in which the foregoing procedure is not followed.

7.6 ADDITIONAL OR SUBSTITUTE BOND

If at any time, for justifiable cause, the Owner shall be or become dissatisfied with any surety or sureties indicated on the performance or labor and material bonds, the Contractor, within five (5) days after notice from the Owner to do so, shall substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premiums on such bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond to the Owner.

7.7 WORK TO CONFORM

All work shall conform, during progress and on completion, and remain truly to the line, levels and grades indicated on the plans or given in writing by the Resident Engineer and shall be built in a thoroughly substantial and workmanlike manner, in accordance with the plans and specifications and directions given from time to time by the Resident Engineer. In no case shall any work in excess of the plan requirements and specifications be paid for unless ordered in writing by the Resident Engineer.

All work done without instructions having been given by the Resident Engineer or done without proper lines or levels, or done during the absence of the Resident Engineer or his agent, will not be estimated or paid for except when such work is authorized by the Owner in writing. Work so done may be ordered uncovered or taken down, removed and replaced at the Contractor's sole cost and expense.

7.8 RECORD DRAWINGS

The Owner shall be responsible for the preparation of all record drawings. The Contractor shall assist the Owner by providing record information as the work progresses. This information shall be in the form of blue line prints, with changes marked in red.

8.0 FINAL COMPLETION AND PAYMENTS

8.1 PROGRESS SCHEDULE

No later than 30 days after award of the contract, the Contractor shall submit to the Resident Engineer a schedule showing in detail the planned progress of the work. The schedule shall show start and finish dates for each important portion of the work, including all necessary testing. No contractor request for progress payments will be processed until an acceptable schedule has been reviewed and accepted by the Resident Engineer. Unacceptable schedules will be returned to the Contractor.

8.2 PROGRESS ESTIMATES AND PAYMENTS

At least 20 days before each monthly progress payment falls due for approval (but not more often than once per month), the Contractor will submit to the Resident Engineer a partial payment estimate filled out and signed by the Contractor, covering the work performed during the period covered by the partial payment estimate and supported by such data as the Resident Engineer may reasonably require. Where any specific item(s) in the partial payment estimate is in dispute, the Resident Engineer may delete those costs from the estimate and approve the acceptable portion of the payment request. Payment requested for stored materials and/or equipment shall be subject to the following conditions being met or satisfied:

- A. The materials and/or equipment shall be received in a condition satisfactory for incorporation in the work.
- B. The materials and/or equipment shall be stored in such manner that they will not be damaged due to weather, construction operations or any other cause.
- C. An invoice from the supplier shall be furnished for each item on which payment is requested.
- D. The Contractor shall furnish written proof from the supplier of 90 percent payment for the materials and/or

equipment no later than 30 days after receipt of payment for same from the Owner. The Owner shall have the right to deduct from the next payment estimate an amount equal to the payment for said material and/or equipment if reasonable and adequate proof is not submitted.

The Contractor warrants and guarantees that title to all work materials and equipment covered by an Application for Payment whether incorporated in the project or not, will pass to the Owner upon the receipt of such payment by the Contractor free and clear of all lien, claims, security interests or encumbrances (except 10 percent retention which may be withheld from suppliers and subcontractors to guarantee completion and performance). The Resident Engineer, after receipt of each partial payment estimate, will indicate in writing either his approval of payment and present the partial payment estimate to the Owner, or return the partial payment estimate to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The Owner shall review the partial payment estimate at its next regularly scheduled meeting and if approved payment shall be made available to the Contractor within five days. The Owner shall retain not more than two percent of the amount of each payment claimed.

When the work is substantially complete (Operational or Beneficial Occupancy), the withheld amount shall be further reduced below two percent but not less than twice the current market value of the work yet to be completed. On completion and acceptance of a part of the work on which the price is stated separately in the Contract Documents, payment shall be made in full, including retained percentages, less authorized deductions.

8.3 PROGRESS PAYMENTS

Partial payments to the Contractor will be made by the Owner on the fourth Thursday of each calendar month, or as soon thereafter as practicable, on the basis of a duly certified and approved estimate made by the Resident Engineer of the work performed during the preceding calendar month under this contract. Such partial payments will be made, provided that the Contractor is performing the overall job in a diligent manner. In making partial payments, two percent on the amount of each estimate will be retained until final completion and final contract acceptance of all work covered by the contract.

The Owner will retain two percent (2%) of the payments claimed, provided the Contractor's progress and performance are judged satisfactory by the Resident Engineer.

It is agreed that this is an entire contract for one whole and complete work and that no partial payments on account by the Owner nor the use of parts of the proposed equipment shall constitute an acceptance of any part of the work before its entire completion and final contract acceptance.

8.4 PAYMENTS WITHHELD

The Owner may withhold or nullify the whole or part of an estimate on account of subsequently discovered evidence to such extent as may be necessary to protect the Owner from loss on account of:

- (A) Unacceptable work not remedied.
- (B) Claims filed or reasonable evidence indicating probable filing of claims.
- (C) Failure of the Contractor to make payments properly to subcontractor or for material or labor.
- (D) A reasonable doubt that the contract can be completed for the balance then unpaid.
- (E) Failure of the Contractor to keep his work progressing in accordance with his progress schedule.
- (F) Failure to submit certified payrolls (including subcontractors) corresponding to the time period covered by the payment request.
- (G) Failure to submit work schedules as required.

When the above grounds are removed, payment shall be made for amounts withheld because of them.

8.5 MEASUREMENT OF QUANTITIES

Scheduled items of work completed under this contract will be measured for payment by the Resident Engineer as provided in the specifications and according to United States standard measures. The Resident Engineer will make all necessary measurements for certification of quantities for payment.

8.6 SUBSTANTIAL COMPLETION

When the Contractor considers that the work, or a designated portion thereof which is acceptable to the Owner, is substantially complete as defined in Section 2 of the General Conditions, the Contractor shall prepare a list of items to be completed or corrected for submission to the Resident Engineer. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents. When the Resident Engineer, on the basis of an inspection, determines that the work or designated portion thereof is substantially complete, the Engineer shall prepare a Certificate of Substantial Completion which shall, (1) establish the date of substantial completion, (2) state the responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the work and insurance and, (3) fix the time within which the Contractor shall complete the items listed therein. Warranties required by the Contract Documents shall commence on the date of substantial completion of the work, or designated portion thereof, unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall be submitted to the Owner and the Contractor for the written acceptance of the responsibilities assigned to them in such Certificate.

On substantial completion of the work or designated portion thereof and upon application by the Contractor and certification by the Engineer, the Owner shall make payment, reflecting adjustment and retainage, if any, for such work or portion thereof, as provided in the Contract Documents.

8.7 FINAL COMPLETION AND FINAL PAYMENT

Upon receipt of written notice that the work is ready for final inspection and acceptance by the Owner and upon receipt of final application for payment, the Engineer and Resident Engineer will promptly make such inspection. When the Engineer finds the work acceptable under the Contract Documents, the Engineer will promptly issue a final certification for payment, stating to the best of his knowledge, information and belief, and, on the best basis of his observation and inspections, that the work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor is due and payable.

Neither the final payment nor the remaining retained percentage shall become due until the Contractor submits to

the Owner (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the Owner might, in any way, be responsible, have been paid or otherwise satisfied, (2) Contractor's Release, (3) Consent of Surety to Final Payment, (4) Certification of Prevailing Rate of Wage on Public Contracts, (5) Maintenance Bond and (6) such other data required by the Owner establishing payment or satisfaction of all such obligations.

If, after substantial completion of the work, final completion thereof is materially delayed through no fault of the Contractor, or by the issuance of change orders affecting final completion, and the Resident Engineer so confirms, the Owner shall, upon application by the Contractor and certification by the Engineer, and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. If the remaining balance of the work not fully completed or corrected is less than the retainage stipulated in the Contract Documents, the written consent of the Surety to the payment of the balance due of that portion of the work fully completed and accepted shall be submitted by the Contractor to the Owner prior to the certification of such payment. Such payments shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims by either party against the other.

8.8 LIENS

If at any time before the expiration of the period within which claims must be entered under the lien law, or if not otherwise specified by law, within thirty (30) days after the whole work herein agreed to be performed and all the labor and materials herein agreed to be delivered have been performed, delivered, or completed and accepted by the OWNER, any person or persons claiming to have performed any labor or furnished any materials and equipment toward the performance or completion of this contract shall file suitable notice with the Owner. The Owner may retain, until the discharge thereof, from the monies under its control all or so much of such money as shall be sufficient to satisfy and discharge the amount claimed to be due in such notice, together with the cost of any action or actions brought to enforce such lien created by the filing of such notice.

8.9 ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor for all things done or

furnished in connection with this work and for every act and neglect of the Owner and others relating to or arising out of this work. With acceptance of final payment, the Contractor shall sign a Contractor's Release relieving the Owner of all further claims arising from the contract. No payment, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this contract or the performance and labor and material bond.

9.0 MISCELLANEOUS

9.1 NOTICE AND SERVICE THEREOF

Any notice to any Contractor from the Owner relative to any part of this contract shall be in writing and considered delivered and the service thereof completed, when said notice is posted by certified or registered mail to the said Contractor at his last given address, or delivered in person to the said Contractor or his authorized representative on the work.

9.2 TAXES

The Contractor shall study all tax laws for the jurisdiction in which the work is being done, particularly so-called sales and use taxes for which he may be liable as a consumer or user of goods. The Owner is a tax-exempt organization and such taxes shall not be included in the bid amounts.

9.3 GUARANTEE

The Contractor guarantees that the work to be done under this contract and the workmanship performed and the materials and equipment used in the construction of the same, shall be free from defect or flaws, that each item or equipment shall be in accordance with the specifications, that the strength of all parts of all manufactured equipment shall be adequate and that the performance test requirements of the specifications shall be fulfilled. The guarantee period shall be for one year after the date of final acceptance of the work by the Owner as stated on the certificate of final completion or as required by the detailed specifications, and the Contractor shall repair or replace, promptly and without charge, all work, equipment, and material or parts thereof, as required, which fail to meet the above guarantee during the periods herein quoted.

The one year guarantee period shall be applicable only as against the retainage and shall in no way affect the Owner's right of recovery for breach of any express or implied

warranties as such shall be governed by N.J.S.A. 12A-2-1 et seq. and any other applicable remedies.

9.4 WAIVERS

Neither inspection by the Resident Engineer, nor any order, measurement, or certificate, nor any payment for or acceptance of the whole or any part of the work by the Owner nor any extension of time, nor any possession taken by the Owner or its employees shall operate as a waiver of any provision of this contract, or any power herein reserved to the Owner, of any right of the Owner for breach of any implied or expressed warranties of this contract as such will be governed by N.J.S.A. 12A-2-1 et seq. and any other applicable remedies, or any right to damages herein provided, nor shall the waiver of any breach of this contract be held to be a waiver of any subsequent breach. Any remedy provided in this contract shall be taken and construed as cumulative, that is, in addition to each and every other remedy herein provided and in addition to other suits, actions, or legal proceedings, the Owner shall also be entitled as of right to a writ of injunction against any breach of any of the provisions of this contract.

9.5 PATENTS

The Contractor shall hold and save harmless the Engineer and the Owner, its officers, agents, servants, and employees from liability of any nature or kind, including cost and expenses for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract, including its use by the Owner, unless otherwise specifically stipulated in the Contract Documents.

License or royalty fees for the use of a process which is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or his authorized licensee, direct by the Owner and not by or through the Contractor.

If the Contractor used any design, device, or material covered by letters patent or copyright, he shall provide for such use by suitable agreement with the Owner of such patented or copyrighted design, device or material. It is mutually agreed and understood that, without exception, the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor or his sureties shall indemnify and save harmless the Owner of the project from

any and all claims for infringement by reason of the use of such patented or copyrighted design, device or materials or any trademark or copyright in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

9.6 CONTRACT DOCUMENTS

The successful bidder will be furnished a maximum of five (5) additional copies of the Contract Documents without charge after award of the contract.

9.7 CONTRACTOR'S WARRANTY OF TITLE

The Contractor warrants and guarantees that title to all work, materials and equipment covered by an application for payment, whether incorporated in the project or not, will have passed to the Owner prior to the making of the application for payment, free and clear of all liens, claims, security interests in encumbrances, and that no work, materials or equipment covered by an application for payment will have been acquired by the Contractor or by any other person performing the work at the site or furnishing materials and equipment for the project to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

10.0 PREVAILING WAGE RATES

If not included herewith, Prevailing Wage Rates will be made available upon receipt by Owner.



STATE OF NEW JERSEY
DEPARTMENT OF LABOR
DIVISION OF WORKPLACE STANDARDS
LABOR BUILDING
CN 389
TRENTON, NEW JERSEY 08625-0389

RAYMOND L. BRAMUCCI
Commissioner

LEONARD KATZ
Assistant Commissioner

DATE OF THIS WAGE DETERMINATION: April 29, 1993
Pursuant to Chapter 150 of the NJ Laws of 1963)

NAME AND TITLE OF REQUESTING OFFICER: RICHARD F. MACDONALD

DEPARTMENT, AGENCY: BRICK TOWNSHIP

DESCRIPTION OF WORK: REMOVAL & INSTALL.OF UNDERGROUND
STORAGE TANKS,INST.VEH.FUELING STA

LOCATION OF WORK: BRICK HIGH SCHOOL,CHAMBERS BR.RD. OCEAN COUNTY
BRICK

DATE OF REQUEST: 4/29/93 PROPOSED ADVERTISING DATE: 5/10/93

Applicable rates are those wages and fringe benefit rates in effect on the date the contract is awarded. All predetermined rate increases listed at time of contract award must also be paid, beginning on the dates specified. Rates may change between the time of issuance of this determination and the award of the public works contract. Therefore, prior to the award of the public works contract, verification must be made, with the Public Contracts Section, to insure that the rates contained in this determination are still prevailing. If a new rate is not listed after expiration date, the old rate will continue to prevail.

The wage rates herein determined shall be made a part of every contract for the performance of the described work. Contractors and sub-contractors shall post the prevailing wage rates, for each classification as herein determined, in a prominent and easily accessible place at the site of the work or at such places as are used to pay workmen their wages.

Employers not paying the itemized employee benefits to a payee designated in a collective bargaining agreement shall pay them directly to the employee on each pay day as part of wages.

Enclosed with this determination is a list of contractors and subcontractors who are debarred from public works pursuant to N.J.S.A. 34:11-56.37. This list is also to be made part of every contract for the performance of the described work. Pursuant to N.J.S.A. 34:11-56.38, no contract shall be awarded or made to the listed contractors or subcontractors.

Robert J. Venezia, Chief
Public Contracts Section
Office of Wage & Hour Compliance
609-292-2259

RJV:em

New Jersey Is An Equal Opportunity Employer



Determination Date 04 29,93

RAYMOND L. BRAMUCCI
Commissioner

STATE OF NEW JERSEY
DEPARTMENT OF LABOR
DIVISION OF WORKPLACE STANDARDS
LABOR BUILDING
CN 389
TRENTON, NEW JERSEY 08625-0389

LEONARD KATZ
Assistant Commissioner

Please provide information, as soon as available, as indicated below,
and return:

OWNER - Department, Agency: BRICK TOWNSHIP

DESCRIPTION OF WORK:

REMOVAL & INSTALL.OF UNDERGROUND STORAGE TANKS,INST.VEH.FUELING STA

LOCATION WHERE WORK WILL BE PERFORMED:

STREET: BRICK HIGH SCHOOL,CHAMBERS BR.RD.

MUNICIPALITY: BRICK

COUNTY: OCEAN COUNTY

CONTRACTORS:

JOB TO START (OR STARTED): _____
(Date)

PUBLIC CONTRACTS SECTION
OFFICE OF WAGE & HOUR COMPLIANCE
CN 389
TRENTON, NEW JERSEY 08625-0389

EM
MW-265

New Jersey Is An Equal Opportunity Employer

NOTICE

TO ALL PUBLIC WORKS EMPLOYERS:

Please be advised that effective February 18, 1992 Regulation N.J.A.C. 12:60-2.1 and 6.1 of the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-55.25 et seq. requires that all public works employers shall submit a certified payroll record to the public body or lessor which contracted for the public work project each payroll period within ten (10) days of the payment of wages. The public body shall receive, file and make available for inspection during normal business hours the certified payroll records.

A copy of the certified payroll form may be obtained by contacting the New Jersey Department of Labor, Division of Workplace Standards, Public Contracts Section, CN 389, Trenton, NJ 08625-0389, telephone (609)292-2259.

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

DETERMINATION:

OPERATING ENGINEERS' RATES EXPIRATION DATE: 6-30-93

	RATE	FRINGE
EFFECTIVE DATE:	7-1-92	7-1-92
<u>CLASSIFICATION:</u>		
A-FRAME.....	24.98	11.40
AERIAL PLATFORM.....	24.98	11.40
ASSISTANT ENGINEER/OILER.....	19.73	11.40
ASPHALT CURBING MACHINE.....	23.07	11.40
ASPHALT PLANT ENGINEER.....	23.07	11.40
ASPHALT SPREADER.....	23.07	11.40
AUTOGRADE-COMBINATION SUBGRADER, BASE MATERIAL SPREADER & BASE TRIMMER (CMI AND SIMILAR TYPES).....	26.57	11.40
AUTOGRADE-PAVEMENT-PROFILER (CMI AND SIMILAR TYPES).....	26.57	11.40
AUTOGRADE-PAVEMENT-PROFILER AND RECYCLE TYPE (CMI AND SIMILAR TYPES).....	26.57	11.40
AUTOGRADE PLACER-TRIMMER-SPREADER COMBINATION (CMI AND SIMILAR TYPES).....	26.57	11.40
AUTOGRADE SLIPFORM PAVER (CMI AND SIMILAR TYPES).....	26.57	11.40
AUTOGRADE CURECRETE MACHINE (CMI AND SIMILAR TYPES).....	23.07	11.40
AUTOGRADE TUBE FINISHER AND TEXTURING MACHINE (CMI & SIMILAR TYPES).....	23.07	11.40
AUTOGRADE CURB TRIMMER & SIDEWALK, SHOULDER, SLIPFORM, (CMI AND SIMILAR TYPES).....	23.07	11.40
BACKHOE.....	26.57	11.40
BACKHOE (COMBINATION).....	24.98	11.40
BAR BENDING MACHINES (POWER).....	23.07	11.40
BATCHERS, BATCHING PLANT & CRUSHER ON SITE.....	23.07	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

	RATE	FRINGE
EFFECTIVE DATE:	7-1-92	7-1-92
BELT CONVEYOR SYSTEMS.....	23.07	11.40
BOILERS & STEAM JENNIES (IRRESPECTIVE OF THEIR USE).....	21.44	11.40
BOOM TYPE SKIMMER MACHINES.....	23.07	11.40
BOOM ATTACHMENT ON LOADERS.....	24.98	11.40
BORING AND DRILLING MACHINES.....	24.98	11.40
BRIDGE DECK FINISHER.....	23.07	11.40
BROOMS AND SWEEPERS.....	21.44	11.40
BRUSH CHOPPER, SHREDDER, TREE SHREDDER AND TREE SHEARER.....	24.98	11.40
BULLDOZERS (ALL).....	23.07	11.40
CABLEWAYS.....	24.98	11.40
CAR DUMPERS (RAILROAD).....	23.07	11.40
CARRYALLS.....	24.98	11.40
CENTRAL POWER PLANTS (ALL TYPES).....	26.57	11.40
CHIPPERS.....	21.44	11.40
COMPRESSOR & BLOWER TYPE UNITS (USED INDEPENDENTLY OR MOUNTED ON DUAL PURPOSE TRUCKS, ON JOB SITE OR IN CONJUNCTION WITH JOB SITE, IN LOADING & UNLOADING OF CONCRETE, CEMENT, FLY ASH, INSTANTCRETE OR SIMILAR TYPE MATERIALS).....	23.07	11.40
COMPRESSOR (SINGLE).....	21.44	11.40
COMPRESSORS (2 OR 3 BATTERY).....	23.07	11.40
CONCRETE BREAKING MACHINE.....	23.07	11.40
CONCRETE FINISHING MACHINE.....	23.07	11.40
CONCRETE PAVING MACHINE.....	26.57	11.40
CONCRETE PUMP.....	24.98	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

	RATE	FRINGE
EFFECTIVE DATE:	7-1-92	7-1-92
CONCRETE PUMPING SYSTEM, PUMPCRETE & SIMILAR TYPES.....	24.98	11.40
CONCRETE SAWS & CUTTERS (RIDE ON TYPE).....	23.07	11.40
CONCRETE SPREADERS-HETZEL, REXOMATIC AND SIMILAR TYPES.....	23.07	11.40
CONCRETE SPREADER (SMALL TYPE).....	21.44	11.40
CONCRETE VIBRATORS.....	23.07	11.40
CONVEYORS, UNDER 125 FEET.....	23.07	11.40
CONVEYORS, 125 FEET AND OVER.....	24.98	11.40
CONVEYOR LOADERS (NOT INCLUDING ELEVATOR GRADERS).....	21.44	11.40
CRANES (ALL TYPES, INCLUDING OVERHEAD AND STRADDLE TRAVELING TYPE).....	26.57	11.40
CRANES, GANTRY.....	26.57	11.40
CRANES, DERRICKS, PILE DRIVERS (ALL TYPES), WITH 100 FT BOOM (INCLUDING JIB AND/OR LEADS) UP TO 139 FEET.....	26.07	11.40
CRANES, DERRICKS, PILE DRIVERS (ALL TYPES), WITH 140 FT. BOOM (INCLUDING JIB AND/OR LEADS) AND OVER.....	26.32	11.40
CRUSHING MACHINES.....	23.07	11.40
DERRICKS (LAND OR FLOATING).....	26.57	11.40
DITCHING MACHINE, SMALL (DITCHWITCH, VERMEER OR SIMILAR).....	23.07	11.40
DRILL DOCTOR (DUTIES INCLUDE DUST COLLECTOR, MAINTENANCE).....	24.98	11.40
DRILLMASTER, QUARRYMASTER (DOWN THE HOLE DRILL), ROTARY DRILL, SELF- PROPELLED HYDRAULIC DRILL, SELF- POWERED DRILL.....	26.57	11.40
DOPE POTS (MECHANICAL WITH OR WITHOUT PUMP).....	23.07	11.40
DRAGLINES.....	26.57	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

EFFECTIVE DATE:	RATE 7-1-92	FRINGE 7-1-92
DUMPSTERS.....	23.07	11.40
ELEVATOR.....	23.07	11.40
ELEVATOR GRADERS.....	26.57	11.40
ENGINES, LARGE DIESEL (1620 HP) AND STAGING PUMP.....	21.44	11.40
FARM TRACTORS.....	21.44	11.40
FERTILIZING EQUIPMENT (OPERATION AND MAINTENANCE OF).....	21.44	11.40
FIELD ENGINEERS		
CHIEF OF PARTY.....	23.07	11.40
TRANSIT/INSTRUMENT MAN.....	19.73	11.40
ROD/CHAINMAN.....	17.15	11.40
SURVEY APPRENTICE-YEARLY SCHEDULE-FIRST TWO YEARS BASED ON ROD/CHAINMAN RATE: 1ST YEAR 70%, 2ND YEAR 75%. LAST TWO YEARS BASED ON TRANSIT/INSTRUMENT MAN'S RATE: 3RD YEAR 80%, 4TH YEAR 90%.		
FINE GRADE MACHINE (SMALL TYPE).....	21.44	11.40
FIREMAN.....	23.07	11.40
FORK LIFT (ECONOMOBLE, LULL AND SIMILAR TYPES).....	23.07	11.40
FORM LINE GRADERS (SMALL TYPE).....	21.44	11.40
FRONT END LOADER (5 YARDS & OVER).....	26.57	11.40
FRONT END LOADER (2 YARDS BUT LESS THAN 5 YARDS).....	24.98	11.40
FRONT END LOADER (1 YARD BUT LESS THAN 2 YARDS).....	23.07	11.40
FRONT END LOADER (UNDER 1 YARD).....	21.44	11.40
GENERATOR (SINGLE).....	21.44	11.40
GENERATOR (2 OR 3 BATTERY).....	23.07	11.40
GIRAFFE GRINDERS.....	23.07	11.40
GRADALLS.....	26.57	11.40
GRADERS, (FINISH)	24.98	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

EFFECTIVE DATE:	RATE 7-1-92	FRINGE 7-1-92
GRADER AND MOTOR PATROLS.....	23.07	11.40
GRADER, RAGO.....	26.57	11.40
GREASE, GAS, FUEL & OIL SUPPLY TRUCKS.....	21.44	11.40
GROOVE CUTTING MACHINE (RIDE ON TYPE).....	24.98	11.40
GROUT PUMP.....	23.07	11.40
GUNNITE MACHINES (EXCLUDING NOZZLE).....	23.07	11.40
HAMMER VIBRATORY (IN CONJUNCTION WITH GENERATOR).....	23.07	11.40
HEATER PLANNER.....	24.98	11.40
HEATERS (NELSON OR OTHER TYPE INCLUDING PROPANE, NATURAL GAS OR FLOWTYPE UNITS)....	21.44	11.40
HELICOPTERS		
PILOT/ENGINEER.....	28.39	11.40
CO-PILOT.....	26.57	11.40
COMMUNICATIONS ENGINEER.....	26.57	11.40
HOISTS: ALL TYPE HOISTS, SHALL ALSO INCLUDE STEAM, GAS, DIESEL, ELECTRIC, AIR HYDRAULIC, SINGLE AND DOUBLE DRUM, CONCRETE, BRICK SHAFT CAISSON, CONVEYOR, SNORKEL ROOF, TUGGER, AND HOUSE CARS OR ANY OTHER SIMILAR TYPE HOISTING MACHINES, PORTABLE OR STATIONARY, EXCEPT CHICAGO BOOM TYPE.....	24.98	11.40
HOISTS (CHICAGO BOOMS).....	24.98	11.40
HOISTS (ROOF, TUGGER, AERIAL PLATFORM HOIST ELEVATORS AND HOUSE CARS).....	23.07	11.40
HOPPERS.....	23.07	11.40
HOPPER DOORS (POWER OPERATED).....	23.07	11.40
HYDRO BLASTER.....	24.98	11.40
HYDRAULIC CRANES (6 TONS AND UNDER).....	24.98	11.40
HYDRO-AXE.....	24.98	11.40
JACKS, SCREW, AIR, HYDRAULIC, POWER OPERATED UNIT OR CONSOLE TYPE (NOT HAND JACK OR PILE LOAD TEST TYPE).....	24.98	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

EFFECTIVE DATE:	RATE 7-1-92	FRINGE 7-1-92
LADDERS (MOTORIZED).....	23.07	11.40
LADDERVATOR.....	23.07	11.40
LEAD ENGINEER, FOREMAN ENGINEER, SAFETY ENGINEER (MINIMUM).....	27.31	11.40
LIGHTS, PORTABLE GENERATING LIGHT PLANT.....	21.44	11.40
LOCOMOTIVE (LARGE).....	26.57	11.40
DINKY TYPE.....	23.07	11.40
LOG SKIDDER.....	24.98	11.40
MAINTENANCE APPRENTICE (OILER).....	19.73	11.40
MAINTENANCE UTILITY MAN.....	23.07	11.40
MAINTENANCE AND REPAIR OF ASPHALT CURBING MACHINES, CONCRETE FINISHING MACHINES, CONCRETE VIBRATORS, GAS BUGGIES, LEVELING MACHINES, PORTABLE GENERATORS, POWER SAWS, COMPRESSOR EQUIPMENT OR COMPRESSOR UNITS USED IN CONNECTION WITH CEMENT, PAINT, INSULATING, CURBING AND SAND BLASTING (ALL AND SIMILAR TYPES).....	23.07	11.40
MECHANIC.....	23.07	11.40
REGISTERED MECHANIC'S APPRENTICE RATE-BASED ON JOURNEYMAN MECHANIC'S WAGE: YEARLY RATES: 1ST YEAR: 60%; 2ND YEAR: 70%; 3RD YEAR: 80%; 4TH YEAR: 90%		
MECHANICS HELPER.....	19.73	11.40
MIXERS (EXCEPTING PAVING MIXERS).....	23.07	11.40
MIXERS, CONCRETE SMALL.....	21.44	11.40
MOTOR PATROLS AND GRADERS.....	23.07	11.40
MUCKING MACHINES.....	26.57	11.40
MULCHING EQUIPMENT (OPERATION AND MAINTENANCE OF).....	21.44	11.40
PANS.....	24.98	11.40
PAVERS (ALL) CONCRETE.....	24.98	11.40
PAVEMENT AND CONCRETE BREAKER i.e. SUPERHAMMER AND HOE RAM.....	26.57	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

EFFECTIVE DATE:	RATE 7-1-92	FRINGE 7-1-92
PAVEMENT BREAKER - SMALL, SELF-PROPELLED RIDE ON TYPE (ALSO MAINTAINS COMPRESSOR OR HYDRAULIC UNIT).....	23.07	11.40
PAVEMENT BREAKER TRUCK MOUNTED.....	23.07	11.40
PILE DRIVER.....	26.57	11.40
PIPE BENDING MACHINE (POWER).....	23.07	11.40
PITCH PUMP.....	23.07	11.40
PLASTER PUMP (REGARDLESS OF SIZE).....	23.07	11.40
POST HOLE DIGGER (POST POUNDER & AUGER).....	23.07	11.40
PUMPCRETE - UNIT TYPE.....	24.98	11.40
PUMPCRETE MACHINES, SQUEEZECRETE AND CONCRETE PUMPING (REGARDLESS OF SIZE).....	24.98	11.40
PUMPS (4 INCH SUCTION AND OVER INCLUDING SUBMERSIBLE PUMPS).....	21.44	11.40
PUMPS (2 INCH OR LESS THAN 4 INCH SUCTION INCLUDING SUBMERSIBLE PUMPS).....	21.44	11.40
PUMPS, DIESEL ENGINE AND HYDRAULIC (IMMATERIAL OF POWER).....	21.44	11.40
ROAD FINISHING MACHINES (SMALL TYPE).....	21.44	11.40
ROADWAY SURFACE GRINDER.....	26.57	11.40
ROD BENDING MACHINES (POWER).....	23.07	11.40
ROLLERS - GRADE FILL OR STONE BASE.....	21.44	11.40
ROLLERS - BLACK TOP.....	23.07	11.40
SCALES, POWER.....	23.07	11.40
SCOOPER (LOADER & SHOVEL).....	26.57	11.40
SCRAPERS.....	24.98	11.40
SEAMEN PULVERIZING MIXER.....	23.07	11.40
SEEDING EQUIPMENT (OPERATION AND MAINTENANCE OF).....	21.44	11.40
SHOULDER WIDENER.....	23.07	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

EFFECTIVE DATE:	RATE	FRINGE
	7-1-92	7-1-92
SHOVELS.....	26.57	11.40
SIDE BOOMS.....	24.98	11.40
SILOS.....	23.07	11.40
SKIMMER MACHINES (BOOM TYPE).....	23.07	11.40
SPRINKLER & WATER PUMP TRUCKS (USED ON JOBSITE OR IN CONJUNCTION WITH JOB).....	21.44	11.40
SQUEEZE CRETE.....	24.98	11.40
STEAM JENNIES AND BOILERS (IRRESPECTIVE OF THEIR USE).....	21.44	11.40
STEEL CUTTING MACHINE (SERVICE AND MAINTENANCE).....	23.07	11.40
STONE SPREADERS.....	21.44	11.40
STRADDLE CARRIERS, ROSS AND SIMILAR TYPE.....	24.98	11.40
TAMPING MACHINES, VIBRATING RIDE-ON.....	21.44	11.40
TAMROCK DRILL.....	23.07	11.40
TEMPORARY HEATING PLANT (NELSON OR OTHER TYPE, INCLUDING PROPANE, NATURAL GAS OR FLOW TYPE UNITS).....	21.44	11.40
TIRE REPAIR AND MAINTENANCE.....	19.73	11.40
TRACTORS.....	23.07	11.40
TREE CHOPPER WITH BOOM.....	26.57	11.40
TRENCH MACHINES.....	26.57	11.40
TUG CAPTAINS.....	23.07	11.40
VIBRATING PLANTS (USED WITH UNLOADING).....	23.07	11.40
WATER AND SPRINKLER TRUCKS (USED ON JOB SITE OR IN CONJUNCTION WITH JOB).....	21.44	11.40
WELDER AND REPAIR MECHANIC.....	23.07	11.40
WELDING MACHINES (GAS, DIESEL OR ELECTRIC CONVERTERS OF ANY TYPE - SINGLE: TWO OR THREE WITHIN 100').....	21.44	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

OVERTIME (3a)

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

	RATE	FRINGE
EFFECTIVE DATE:	7-1-92	7-1-92

WELDING SYSTEM - MULTIPLE (RECTIFIER TRANSFORMER TYPE)	21.44	11.40

WELLPOINT SYSTEMS (INCLUDING INSTALLATION BY BULL GANG AND MAINTENANCE)	21.44	11.40

WINCH TRUCKS (HOISTING)	24.98	11.40

WATER OPERATION: ON ALL POWER BOATS USED IN CON- JUNCTION WITH PIPELINE, RIVER CROSSINGS AND ALL TYPES OF CONSTRUCTION. THE WORK PERFORMED BY THE CAPTAIN & TUG MAINTENANCE. ENGINEER SHALL BE ASSIGNED TO EMPLOYEES COVERED BY THIS AGREEMENT AND THE FOLLOWING RATES SHALL APPLY.....	23.07	11.40

CAPTAIN (POWER BOATS)	23.07	11.40

TUG MASTER (POWER BOATS)	23.07	11.40

MAINTENANCE APPRENTICE (DECKHAND)	19.73	11.40

APPRENTICESHIP OPERATOR - ALL EQUIPMENT - YEARLY SCHEDULE BASED ON PIECE OF EQUIPMENT
PERSON IS OPERATING 1ST YEAR - 60%, 2ND YEAR - 70%, 3RD YEAR - 80%, 4TH YEAR - 90%

WORK AT HAZARDOUS WASTE SITES

ON HAZARDOUS WASTE REMOVAL WORK, WHERE OPERATING ENGINEER IS IN DIRECT CONTACT
WITH HAZARDOUS MATERIAL AND WHEN PERSONAL PROTECTIVE EQUIPMENT IS REQUIRED FOR
RESPIRATORY, SKIN AND EYE PROTECTION, THE OPERATING ENGINEER SHALL RECEIVE THE HOURLY
WAGE PLUS AN ADDITIONAL TWENTY PERCENT (20%) OF THAT WAGE. FRINGE BENEFITS WILL
BE PAID AT THE REGULAR RATE.

STRUCTURAL STEEL ERECTION

AERIAL PLATFORM USED ON HOISTS	23.48	11.40
ASSISTANT ENGINEER/OILER	20.19	11.40
A-FRAME	26.14	11.40

CHERRY PICKERS - 10 TONS AND UNDER (OVER 10 TONS - USE CRANE RATE)	26.14	11.40

CHIEF OF PARTY	23.48	11.40

COMPRESSOR (SINGLE)	21.95	11.40

COMPRESSOR (2 OR 3 IN BATTERY)	23.48	11.40

CONVEYORS & TUGGER HOISTS	23.48	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

EFFECTIVE DATE:	RATE 7-1-92	FRINGE 7-1-92
CRANES (ALL CRANES - LAND OR FLOATING WITH BOOM - INCLUDING JIB, 140 FEET AND OVER ABOVE GROUND).....	28.39	11.40
CRANES (ALL CRANES - LAND OR FLOATING WITH BOOM - INCLUDING JIB, LESS THAN 140 FEET ABOVE GROUND).....	27.48	11.40
DERRICKS (LAND OR FLOATING) WITH BOOMS, INCLUDING JIB, 140 FEET AND OVER ABOVE GROUND.....	28.39	11.40
DERRICKS (LAND OR FLOATING) WITH BOOMS, INCLUDING JIB, LESS THAN 140 FEET ABOVE GROUND.....	27.48	11.40
ELEVATORS OR HOUSE CARS.....	23.48	11.40
FIREMAN.....	23.48	11.40
FORK LIFTS.....	23.48	11.40
GENERATORS (SINGLE).....	21.95	11.40
GENERATORS (2 OR 3).....	23.48	11.40
HELICOPTERS:		
PILOT/ENGINEER.....	30.20	11.40
CO-PILOT.....	28.39	11.40
COMMUNICATIONS ENGINEER.....	28.39	11.40
HOISTS: ALL TYPE HOIST EXCEPT CHICAGO BOOM TYPE.....	26.14	11.40
JACKS, SCREW AIR HYDRAULIC POWER OPERATED UNIT OR CONSOLE TYPE (NOT HAND JACK OR PILE LOAD TEST TYPE).....	26.14	11.40
LEAD ENGINEER, FOREMAN ENGINEER, SAFETY ENGINEER (MINIMUM).....	27.76	11.40
MAINTENANCE APPRENTICE (OILER).....	20.19	11.40
MAINTENANCE UTILITY MAN.....	23.48	11.40
ROD BENDING MACHINE (POWER).....	23.48	11.40
ROD CHAINMAN.....	17.15	11.40
SIDE BOOMS.....	26.14	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

	RATE	FRINGE
EFFECTIVE DATE:	7-1-92	7-1-92
STRADDLE CARRIER.....	20.19	11.40
TRANSIT/INSTRUMENT MAN.....	20.19	11.40
WELDING MACHINES, GAS, DIESEL, OR ELECTRIC CONVERTERS OF ANY TYPE - SINGLE.....	21.95	11.40
WELDING MACHINES, GAS OR ELECTRIC CONVERTERS ON ANY TYPE - 2 OR 3 IN BATTERY INCLUDING DIESELS.....	23.48	11.40
WELDING SYSTEM MULTIPLE (RECTIFIER TRANSFORMER TYPE).....	21.95	11.40
WATER OPERATION:		
CAPTAIN (POWER BOATS).....	23.48	11.40
TUG MASTER (POWER BOATS).....	23.48	11.40
MAINTENANCE APPRENTICE (DECKHAND).....	20.19	11.40

* Allocation of increase on 7-1-92 between rate and fringe benefits
to be determined at a later date.

TEST BORING PRELIMINARY TO CONSTRUCTION

THE DRILLER SHALL BE EMPLOYED ON ALL WORK KNOWN AS CORE DRILLING, DIAMOND DRILLING, MUD DRILLING, PIPE DRIVING AND SETTING, SOUNDING WASH BORING, POUNDING, PROBING, TEST BORING, SHOT DRILLING, AUGER DRILLING FOR SOUNDING OR TEST BORING AND ON ANY WORK PERFORMED ON LAND OR WATER USED IN CONNECTION WITH SUCH ACTIVITIES, WHICH ARE PRELIMINARY TO THE CONSTRUCTION TRADES, INCLUDING THE MOVING, HAULING, LOADING AND UNLOADING OF SUCH EQUIPMENT BY VEHICLES AND THE OPERATION THEREOF.

HOURLY PREVAILING WAGE RATE

EFFECTIVE DATE:	6-18-92	10-17-92	10-17-93
JOURNEYMAN:	18.735	19.485	20.235
FOREMAN*:	766.20	796.20	826.20
*Per 40 Hour Week			
HELPER:	16.725	17.225	17.725
BENEFITS:	6.19	*	*
OVERTIME:	(5)	(5)	(5)

* Fringe benefits on 10-17-92 and 10-17-93 to be determined at a later date.

HAZARDOUS WASTE DIFFERENTIAL: LEVEL A: 1.00/ HOUR
 LEVEL B: .75/HOUR
 LEVEL C: .25/HOUR

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

DRILL FOR GROUND WATER SUPPLY

EFFECTIVE DATE:	10-23-92
DRILLER	20.21
BENEFITS	2.75
HELPER	17.95
HELPER HIRED AFTER 8-1-91	14.60*
1ST YEAR TRAINEE	9.62
2ND YEAR TRAINEE	11.87
3RD YEAR TRAINEE	14.13
OVERTIME	(39)

* + \$1.00 PER HOUR EACH FOR WELDING COURSE AND DRILLER LICENSE.

WHEN DRILLING WORK REQUIRES PERSONAL PROTECTIVE EQUIPMENT EQUAL TO OSHA LEVEL "A" THERE IS A \$3.00 PER HOUR PREMIUM; LEVEL "B" \$2.00 PER HOUR; LEVEL "C" \$1.00 PER HOUR.

THE WELL DRILLER AND/OR HIS HELPERS MAY PERFORM ALL OF THE LABOR RELATIVE TO THE CONSTRUCTION, FINISHING, AND SERVICING OF WELLS, PUMPS AND BORINGS FOR GROUND WATER SUPPLY. THE PRESENT METHODS OF WELL DRILLING ENTAILING, AS THEY DO, MANY DIVERSE JOB OPERATIONS CALLING FOR DRILLING, PUMP DISCHARGE, PIPINGS, AND THE OPERATION OF THE VARIOUS DIFFERENT TYPES OF RELATED POWER EQUIPMENT, SHALL ALL BE PROPERLY WITHIN THE JOB DUTIES AND FUNCTIONS OF THE WELL DRILLER AND/OR HIS HELPERS. IN THE EVENT THAT AN EXTENSION OF WORK SHOULD OCCUR BEYOND WATER WELL DRILLING FUNCTIONS AND INTO THE FIELD OF GENERAL CONSTRUCTION WORK, SUCH EXTENSION OF WORK WOULD COME UNDER THE APPROPRIATE RATES LISTED ELSEWHERE IN THIS WAGE DETERMINATION.

TRAINEES MUST WORK UNDER DIRECT SUPERVISION OF DRILLERS OR COMPETENT HELPERS. THERE IS NO LIMIT TO THE NUMBER OF TRAINEES AT A SITE.

NOTE: MARINE AND DREDGING RATES ARE AVAILABLE UPON REQUEST

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

ENTIRE STATE

HEAVY & GENERAL LABORERS

EFFECTIVE DATE:	RATE 3-1-93	BENEFITS 3-1-93	RATE 3-1-94	BENEFITS 3-1-94
Blaster	22.20	8.13	22.70	9.18
General Foreman	19.70	8.13	20.20	9.18
Finisher Foreman, Concrete Foreman	19.65	8.13	20.15	9.18
Pipe Foreman and Grade Foreman	19.15	8.13	19.65	9.18
Drill Foreman	18.95	8.13	19.45	9.18
Labor Foreman	18.70	8.13	19.20	9.18
Finisher, Rammer, Paver, Gunite Nozzle Man, Stone- cutter, Form Setter, Manholes, Catch Basins, Inlet Builder	18.65	8.13	19.15	9.18
Timberman, Wagon Drill Operator and Drill Master	18.40	8.13	18.90	9.18
Sewer Pipe, Laser Men, Conduit and Duct Line Layer, Power Tool Operator, Jack Hammer, Chipping Hammer, Pavement Breaker, Power Buggy, Concrete Cutter, Asphalt Cutter, Sheet Hammer and Tree Cutter Operators, Sandblasting, Cutting, Burning, and other Power Tools	18.20	8.13	18.70	9.18
Wagon Drill Operator Helper, Drill Master Helper, Powder Carrier & Magazine Tender, Signal Man	17.90	8.13	18.40	9.18
Common Laborer, Landscape Laborer, Railroad Track Laborer, Flagman, Traffic Director, Salamander Tender, Pitman, Dump Man, Waterproofing, Rakers & Tampers on Cold Patch Work, Wrapping and Coating of all Pipe	17.70	8.13	18.20	9.18
Toxic or Hazardous Waste Laborer	3.00 per hour over regular applicable hourly wage rate in Zones A, B or C, 1.00 per hour outside Zones A, B or C			

OVERTIME FOR ALL CLASSIFICATIONS: (5)

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

ENTIRE STATE OF NEW JERSEY

FREE AIR TUNNEL JOBS

EFFECTIVE DATE:	RATE 3-1-93	BENEFITS 3-1-93	RATE 3-1-94	BENEFITS 3-1-94
Walking Bosses and Superintendents	20.45	8.13	20.95	9.18
Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman	19.65	8.13	20.15	9.18
Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman	19.15	8.13	19.65	9.18
Blasters	22.20	8.13	22.70	9.18
Top Laborer Foreman	18.60	8.13	19.10	9.18
Skilled Men (including Miners, Drill Runners, Iron Men, Conveyor Men Maintenance Men, Safety Miners, Riggers, Block Layers, Cement Finisher, Rod Men, Caulkers, Powder Carriers, all other skilled men)	18.75	8.13	19.25	9.18
Semi-Skilled Men (including Miners' Helper, Chuck Tenders, Track Men, Nippers, Brake Men, Derail Men, Cable Men, Hose Men, Gravel Men, Form Men, Bell or Signal Men (Top or Bottom, Form Workers and Movers, Concrete Workers, Shaft Men, Tunnel Laborers, Caulkers' Helper, All other Semi-Skilled Men)	18.60	8.13	19.10	9.18
All Others (including Powder Watchmen, Change House Attendants, Top Laborers	18.10	8.13	18.60	9.18

OVERTIME FOR ALL CLASSIFICATIONS: (5)

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
OCEAN COUNTY

ATLANTIC, BURLINGTON, CAMDEN, CAPE MAY, CUMBERLAND, GLOUCESTER, MERCER, MONMOUTH,
OCEAN, AND SALEM COUNTIES

ASPHALT LABORERS

<u>STREET</u>	RATE	BENEFITS	RATE	BENEFITS	RATE	BENEFITS
Effective Date:	9-1-92	9-1-92	3-1-93	3-1-93	3-1-94	3-1-94
Paving Foreman	18.35	7.13	18.85	8.13	19.35	9.18
Head Raker	18.00	7.13	18.50	8.13	19.00	9.18
Rakers, Screed Men	17.85	7.13	18.35	8.13	18.85	9.18
Tampers, Smoothers, Kettlemen, Painters, Shoveler & Roller Boys	17.60	7.13	18.10	8.13	18.60	9.18
TRAINEES* (STARTING RATE)	12.35	7.13	12.85	8.13	13.35	9.18
<u>Plant</u>						
Scale Mixer and Burner Men	17.85	7.13	18.35	8.13	18.85	9.18
Feeders and Dust Men	17.60	7.13	18.10	8.13	18.60	9.18

Job Steward to receive + .40 per hour over regular hourly wage.

OVERTIME FOR ALL CLASSIFICATIONS: (36)

*TRAINEE RATES LISTED ABOVE APPLY TO THE FIRST FIFTEEN WEEKS OF EMPLOYMENT. THEREAFTER, SAID RATE SHALL INCREASE TO 75% OF RAKERS RATE FOR FIFTEEN ADDITIONAL WEEKS. AFTER THE THIRTY WEEK TRAINING PERIOD, THE EMPLOYEE WILL THEN BE PAID AT THE FULL RAKERS RATE. THE TRAINEE RATE MAY ONLY BE PAID TO THE FIFTH MAN ON A FOUR MAN ASPHALT LABORERS PAVING CREW.

NOTE: Fringe benefits are an integral part of the prevailing wage rate and are in addition to those wages tabulated as rate per hour. Employers not paying these benefits to a payee designated in a collective bargaining agreement shall pay the benefits directly to the employee on each pay day.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

HUNTERDON, MERCER, MIDDLESEX, MONMOUTH, OCEAN & SOMERSET

CRAFT

TRUCK CLASSIFICATION	RATE	BENEFITS	RATE	BENEFITS	RATE	BENEFITS
EFFECTIVE DATE:	7-29-92	7-29-92	5-1-93	5-1-93	5-1-94	5-1-94
Helper on Asphalt Distributor, Pick-up and Dump Truck Drivers, Winch Straight Truck Drivers, Water and Fuel Truck Drivers	22.55	7.035	23.05	8.035	23.55	9.035
Straight Three-Axle Material Driver	22.60	7.035	23.10	8.035	23.60	9.035
Tractor Trailer Truck Driver	22.70	7.035	23.20	8.035	23.70	9.035
Euclid Type Vehicles (Except Self Loading)	22.70	7.035	23.20	8.035	23.70	9.035
Winch Trailer Driver	22.80	7.035	23.30	8.035	23.80	9.035
Mechanic Helper	22.32	7.035	22.82	8.035	23.32	9.035

Truck Foreman: \$.25 cents per hour above regular rate. Overtime shall be increased accordingly.

HAZARDOUS WASTE REMOVAL: + \$3.00 per hour

On hazardous waste removal work on a State designated hazardous waste site where the driver is in direct contact with hazardous materials and when personal protective equipment is required for respiratory, skin and eye protection, the driver shall receive an additional \$3.00 per hour on the hourly wage rate. A hazardous waste related certified worker at a designated hazardous waste site who is not working in a zone requiring level A, B or C personal protection shall receive an hourly wage rate plus \$1.00 per hour.

EXPIRATION DATE: 4-30-95

OVERTIME FOR ALL CLASSIFICATIONS: (40)

NOTE: Fringe benefits are an integral part of the prevailing wage rate and are in addition to those wages tabulated as rate per hour. Employers not paying these benefits to a payee designated in a collective bargaining agreement shall pay the benefits directly to the employee on each pay day.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

ABBREVIATIONS:

D = Effective Date of Wage Rate
J = Journeyman Rate Per Hour
F = Foreman Rate Per Hour
AGF = Assistant General Foreman
DF = Deputy Foreman
AF = Assistant Foreman
SF = Sub Foreman
PR = Plan Reader

GF = General Foreman
H = Helper Rate Per Hour
B = Benefits Per Hour
T = Total Rate Per Hour
CS = Certified Supervisor
PH = Probationary Helper
CSP = Cable Splicer

CRAFT			OVERTIME
AIR CONDITIONING	D	3-14-92	EXPIRATION DATE: 2-28-93
AND			
REFRIGERATION	J	18.45	
	B	4.89	(5)
HEAT & FROST	D	11-18-92	EXPIRATION DATE: 6-30-93
INSULATORS			
ASBESTOS	J, CS	23.46	
WORKERS*	SF	23.96	
(1-10 MEN)	F	24.46	
(11-20 MEN)	F	24.96	
ONE YEAR OR MORE	H	16.42	
LESS THAN 1 YEAR	H	11.73	
	B	9.78	(5)

RATIO OF ASBESTOS HANDLER TO CERTIFIED SUPERVISOR MECHANIC: 4:1

*Also applies to the removal of insulation materials/asbestos from mechanical systems including containment erection & demolition and placing material in appropriate containers.

BOILERMAKERS	D	8-1-92	EXPIRATION DATE: 7-31-93	
	J	26.59		
	AF	28.09		
	F	28.59		
	GF	29.09		
	B	41% + 1.24		(14)
BRICKLAYERS	D	5-15-92	5-1-93	5-1-94
STONE MASON				EXPIRATION DATE: 4-30-95
	J	21.56	*	*
	B	11.35	*	*
	T	32.91	34.21	35.51
	DF	22.89	*	*
	B	12.02	*	*
	T	34.91	36.21	37.51
	F	26.38	*	*
	B	12.18	*	*
	T	38.56	39.86	41.16
				(11)

* Allocation of increases on 5-1-93 and 5-1-94 between rate and fringe benefits to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

CRAFTS			OVERTIME
CARPENTERS	D	7-9-92	EXPIRATION DATE: 4-30-93
	J	23.94	
	B	9.14	
	F	27.53	
	B	10.51	
	GF	31.12	
	B	11.87	(26)
CARPENTERS' RESILIENT FLOORING	D	10-1-92	EXPIRATION DATE: 4-30-93
	J	22.74	
	B	7.01	
	F	24.24	
	B	7.47	(25)
CEMENT MASON CEMENT FINISHERS	SAME AS BRICKLAYERS		
DIVERS	D	7-1-92	EXPIRATION DATE: 6-30-93
	J	19.67	
	B	12.62	(23)
DOCKBUILDERS PILEDRIVERMEN	D	7-1-92	EXPIRATION DATE: 6-30-93
	J	19.67	
	F	23.60	
CREOSOTE		+.25	
	B	12.62	(23)
CREOSOTE RATE FROM MAY 1 TO SEPTEMBER 30 IS +.50			
DRYWALL FINISHERS	D	8-1-92	EXPIRATION DATE: 7-31-93
	J	23.25	
	F	+ 1 HR/DAY	
	GF	+ 2 HR/DAY	
	B	10.54	(14)

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

CRAFTS					OVERTIME
*ELECTRICIAN	D	1-7-93	5-31-93	5-30-94	EXPIRATION DATE: 5-31-95
J, CS		25.00	26.16	27.32	
PR		26.25	27.47	28.69	
(2-10 W) F		27.50	28.77	30.05	
(10 W) GF		28.25	29.56	30.87	
AGF		29.00	30.35	31.69	
GF		29.75	31.13	32.51	
B		17% + 4.79	17% + 4.79	17% + 4.79	
OVERTIME 1 1/2 B		17% + 7.18	17% + 7.18	17% + 7.18	
2X B		17% + 9.57	17% + 9.57	17% + 9.57	(24)

*ALSO APPLIES TO FIRE AND BURGLAR ALARM WORK

ELEVATOR	D	7-9-92			EXPIRATION DATE: 6-30-93
CONSTRUCTORS					
J		25.81			
F		29.04			
H		18.07			
6 MONTHS PH		12.905			
B		6% + 6.12 UNDER 5 YEARS			
B		8% + 6.12 OVER 5 YEARS			(2)

HELPER TO JOURNEYMAN RATIO 1:1; EXCEPT ON JOBS WHERE TWO TEAMS ARE WORKING, ONE EXTRA HELPER MAY BE EMPLOYED FOR THE FIRST TWO TEAMS AND AN EXTRA HELPER FOR EACH ADDITIONAL THREE TEAMS. FURTHER, THE EMPLOYER MAY USE AS MANY HELPERS AS NEEDED UNDER THE DIRECTION OF A JOURNEYMAN IN WRECKING OLD PLANTS, HANDLING AND HOISTING MATERIAL, AND ON FOUNDATION WORK. WHEN REMOVING OLD AND INSTALLING NEW CABLES ON EXISTING ELEVATORS, EMPLOYER MAY USE TWO HELPERS TO ONE MECHANIC.

ON ELEVATOR SERVICE THE OVERTIME CODE IS (5), AND THE HELPER TO JOURNEYMAN RATIO: 1:3.

GLAZIERS	D	12-18-91			EXPIRATION DATE: 9-30-92
J		23.90			
F		24.90			
GF		25.90			
B		9.40			(2)
IRONWORKERS	D	7-1-92			EXPIRATION DATE: 6-31-93
J		22.85			
F		24.85			
GF		25.85			
ROD/J		21.85			
ROD/F		23.85			
ROD/GF		24.85			
B		14.85			(5)

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

CRAFTS			OVERTIME
LABORERS	D	5-15-92	EXPIRATION DATE: 4-30-93
(ASBESTOS & HAZARDOUS WASTE REMOVAL) *	J	18.30	
	B	8.50	

F +1 HR/DAY (13)

*Applies to removal of asbestos materials from walls, ceilings, floors, columns and all other non-mechanical systems including mechanical systems to be scrapped, including containment erection & demolition and placing material in appropriate containers.

LABORERS (BUILDING)	D	5-6-92	EXPIRATION DATE: 4-30-93
	J	16.35	
	F	+1 HR/DAY	
	B	8.45	(32)

LATHERS SAME AS CARPENTERS

MARBLE SETTERS SAME AS BRICKLAYERS

MASONS SAME AS BRICKLAYERS

MILLWRIGHTS	D	7-9-92	EXPIRATION DATE: 4-30-93
	J	24.44	
	B	9.33	
	F	28.11	
	B	10.73	
	GF	31.77	
	B	12.12	(26)

PAINTERS -	D	9-11-92	5-1-93	5-1-94	5-1-95	EXPIRATION DATE: 4-30-96
BRIDGES,	J	23.55	25.15	26.75	28.35	
VIADUCTS &	F	25.91	27.67	29.43	31.19	
OTHER	GF	27.08	28.92	30.76	32.60	
APPURTENANCES	B	28% + 2.00	25% + 2.00	26% + 2.00	25% + 2.00	(18)

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

CRAFTS						OVERTIME
PAINTERS	D	11-1-92	5-1-93	11-1-93	5-1-94	EXPIRATION DATE: 4-30-96
ROLLER,	J	22.75	23.40	24.10	24.75	
BRUSH,	F	25.03	25.74	26.51	27.23	
PAPERHANGER	GF	26.16	26.91	27.72	28.46	
	B	28% + 2.00	25% + 2.00	27% + 2.00	26% + 2.00	
	D	11-1-94	5-1-95	11-1-95		
	J	25.45	26.10	26.80		
	F	28.00	28.71	29.48		
	GF	29.27	30.02	30.82		
	B	26% + 2.00	25% + 2.00	25% + 2.00		
SPRAY, STRUCTURAL STEEL	D	9-11-92	5-1-93	5-1-94	5-1-95	
	J	23.55	25.15	26.75	28.35	
	F	25.91	27.67	29.43	31.19	
	GF	27.08	28.92	30.76	32.60	
	B	28% + 2.00	25% + 2.00	26% + 2.00	25% + 2.00	(9)
PAINTERS REPAINT*	D	11-1-92	5-1-93	11-1-93	5-1-94	EXPIRATION DATE: 4-30-96
	J	19.91	20.48	20.49	21.04	
ROLLER	F	21.90	22.53	22.54	23.14	
BRUSH	GF	22.90	23.55	23.56	24.20	
PAPERHANGER	B	28% + 2.00	25% + 2.00	27% + 2.00	26% + 2.00	
	D	11-1-94	5-1-95	11-1-95		
	J	21.00	21.53	21.44		
	F	23.10	23.68	23.58		
	GF	24.15	24.76	27.12		
	B	26% + 2.00	25% + 2.00	25% + 2.00		
SPRAY	D	11-1-92	5-1-93	11-1-93	5-1-94	
	J	20.61	22.01	21.38	22.74	
	F	22.67	24.21	23.52	25.01	
	GF	23.70	25.31	24.59	26.15	
	B	28% + 2.00	25% + 2.00	27% + 2.00	26% + 2.00	
	D	11-1-94	5-1-95	11-1-95		
	J	22.07	23.39	22.68		
	F	24.28	25.73	24.95		
	GF	25.38	26.90	26.08		
	B	26% + 2.00	25% + 2.00	25% + 2.00		(9)

* Including jobs where no major alterations are taking place but
excluding bridges, stacks, elevated tanks and generating stations.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

CRAFTS			OVERTIME
PAINTERS	D	7-1-92	EXPIRATION DATE: 6-30-93
TRAFFIC MARKING	J	20.45	
	F	20.95	
YEAR 1	H	15.34	
YEAR 2	H	16.36	
YEAR 3	H	17.38	
	B	1.26	(33)

PIPEFITTERS SAME AS PLUMBERS

PLASTERERS SAME AS BRICKLAYERS

PLUMBERS	D	1-1-93	7-1-93	7-1-94	EXPIRATION DATE: 6-30-95
	J	26.18	*	*	
	B	9.70	*	*	
	T	35.88	37.38	38.88	
	F	28.00	*	*	
	B	9.70	*	*	
	T	37.70	39.20	40.70	
	AGF	28.51	*	*	
	B	9.70	*	*	
	T	38.21	39.71	41.21	
	GF	29.81	*	*	
	B	9.70	*	*	
	T	39.51	41.01	42.51	(16)

* Allocation of increase on 7-1-93 and 7-1-94 between rate and fringe benefits to be determined at a later date.

ROOFERS	D	5-22-92	EXPIRATION DATE: 4-30-93
	J	21.97	
(1-5 MEN)	F	22.97	
(6 OR MORE MEN)	F	23.47	
	B	9.74	
MOPPER & FELT LAYING MACHINES, SLAG DISPENSER:			
	J	22.47	
	B	9.74	(4)

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

CRAFTS			OVERTIME
ROOFERS	D	11-1-91	EXPIRATION DATE: 10-31-92
SHINGLE, SLATE & TILE	J	15.75	
	F	16.50	
4 OR MORE MEN	F	17.00	
	H	8.13	
	B	4.57	(4)

SLATE HELPER + \$1.00 OVER HELPER RATE
1 HELPER TO 2 JOURNEYMEN

SHEET METAL WORKERS	D	1-1-93	6-1-93	EXPIRATION DATE: 5-31-94
	J	23.53	*	
	B	11.99	*	
	T	35.52	37.52	
	F	24.78	*	
	B	11.99	*	
	T	36.77	38.77	
	GF	25.53	*	
	B	11.99	*	
	T	37.52	39.52	
	SF	26.03	*	
	B	11.99	*	
	T	38.02	40.02	(11)

* Allocation of increase on 6-1-93 between rate and fringe benefits to be determined at a later date.

SPRINKLER FITTERS	D	1-1-93	4-1-93	1-1-94	EXPIRATION DATE: 5-31-94
	J	27.00	28.00	28.00	
	F	28.50	29.50	29.50	
	B	6.03	6.03	6.73	(14)

TILE SETTERS	D	4-30-92	4-28-93	EXPIRATION DATE: 5-31-94
	J	26.54	*	
	B	10.98	*	
	T	37.52	39.52	
	F	+10.00 PER DAY ABOVE JOURNEYMAN RATE		
				(25)

* Allocation of increase on 4-28-93 between rate and fringe benefits to be determined at a later date.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

CRAFTS				OVERTIME
TILE SETTERS	D	11-6-92	5-1-93	EXPIRATION DATE: 4-30-94
HELPERS				
	H	18.55	19.05	
	B	11.82	12.57	(25)
WELDERS	SAME RATE AS CRAFT THAT WELDING IS INCIDENTAL TO			

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

APPRENTICE RATE SCHEDULE

OCEAN COUNTY

THE APPRENTICE RATE IS BY PERCENTAGE OF THE JOURNEYMAN'S RATE UNLESS OTHERWISE INDICATED.

CRAFT	INTERVAL	PERIOD AND RATES									
		1	2	3	4	5	6	7	8	9	10
AIR CONDITIONING & REFRIGERATION	YEARLY	30%	40%	55%	70%	85%					
ASBESTOS WORKER	YEARLY	50%	60%	70%	80%						
BOILERMAKERS	1,000 HOURS	60%	65%	70%	75%	80%	85%	90%	95%		
BRICKLAYERS	6 MONTHS	50%	55%	65%	75%	85%	95%				
		2.05	2.05	7.38	8.51	9.64	10.78				
CARPENTERS	6 MONTHS	40%	45%	50%	55%	60%	70%	80%	90%		
CARPENTERS' RESILIENT FLOORING	6 MONTHS BENEFITS	10.91 3.39	11.89 3.69	12.34 3.83	14.58 4.51	16.61 5.14	16.61 5.14	18.76 5.79	18.76 5.79		
CEMENT FINISHERS	SAME AS BRICKLAYERS										
CEMENT MASONS	SAME AS BRICKLAYERS										
DOCKBUILDERS	6 MONTHS BENEFITS	60% 10.22	65%	70%	75%	80%	85%				
DRYWALL FINISHERS	6 MONTHS BENEFITS	8.13 7.39	11.62 8.19	17.43 9.64	20.92 10.54						
ELECTRICIANS:											
1ST 1,000 HRS				2ND 750 HRS				6,500 - 8,000 HRS			
	30%			(2ND YEAR) 45%				(5TH YEAR) 80%			
(1ST YEAR)	B 17% + 2.69			17% + 3.14				17% + 4.19			
OVERTIME (1 1/2)	B 17% + 4.03			17% + 4.71				17% + 6.28			
OVERTIME (2X)	B 17% + 5.37			17% + 6.27				17% + 8.37			
2ND 1,000 HRS				3,500 - 5,000 HRS							
	35%			(3RD YEAR) 50%							
(1ST YEAR)	B 17% + 2.84			17% + 3.29							
OVERTIME (1 1/2)	B 17% + 4.26			17% + 4.93							
OVERTIME (2X)	B 17% + 5.67			17% + 6.57							
1ST 750 HRS				5,000 - 6,500 HRS							
	40%			(4TH YEAR) 65%							
(2ND YEAR)	B 17% + 2.99			17% + 3.74							
OVERTIME (1 1/2)	B 17% + 4.48			17% + 5.61							
OVERTIME (2X)	B 17% + 5.97			17% + 7.47							
GLAZIERS	6 MONTHS	30%	35%	40%	45%	50%	55%	60%	65%	75%	85%
	BENEFITS	4.00	5.84	6.10	6.36	6.63	6.89	7.15	7.41	7.94	8.46

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION

APPRENTICE RATE SCHEDULE

OCEAN COUNTY

THE APPRENTICE RATE IS BY PERCENTAGE OF THE JOURNEYMAN'S RATE UNLESS OTHERWISE INDICATED.

CRAFT	INTERVAL	PERIOD AND RATES									
		1	2	3	4	5	6	7	8	9	10
IRONWORKERS	6 MONTHS	60%	70%	80%	80%	90%	90%				
MARBLE SETTERS	6 MONTHS	40%	50%	60%	70%	80%	90%				
MILLWRIGHTS	6 MONTHS	40%	45%	50%	55%	60%	70%	80%	90%		
PAINTERS	4 MONTHS	30%	40%	50%	60%	70%	75%	80%	85%	90%	
PIPEFITTERS	YEARLY BENEFITS:	35% 6.40	45% 6.91	55% 7.41	65% 7.92	75% 8.43					
PLASTERERS	6 MONTHS	40%	50%	60%	70%	80%	90%				
PLUMBERS	YEARLY BENEFITS:	35% 6.40	45% 6.91	55% 7.41	65% 7.92	75% 8.43					
ROOFERS	6 MONTHS	45%	55%	65%	80%						
SHEET METAL	6 MONTHS	40%	45%	50%	55%	60%	65%	70%	75%		
SPRINKLER FITTERS	6 MONTHS	50%	55%	60%	65%	70%	75%	80%	85%		
INDENTURED AFTER 4-1-91:											
	6 MONTHS	38%	41%	45%	50%	56%	62%	68%	74%	80%	85%
	BENEFITS	3.93	3.93	3.93	3.93	6.03	6.03	6.03	6.03	6.03	6.03
	BENEFITS: 1-1-94	4.53	4.53	4.53	4.53	6.73	6.73	6.73	6.73	6.73	6.73
STONE MASONS	6 MONTHS	40%	50%	60%	70%	80%	90%				
TILE SETTERS	875 HOURS	45%	50%	55%	60%	70%	80%				

OVERTIME PROVISION SAME AS JOURNEYMAN

The overtime provision for apprentices is the same as the journeyman's for each specified craft. Refer to the specific craft to determine the overtime code, then refer to the overtime rate schedule.

EMPLOYEE BENEFITS

Fringe Benefits are an integral part of the prevailing wage rate and are in addition to those wages tabulated as rate per hour. Employers not paying these benefits to a payee designated in a collective bargaining agreement shall pay the benefits directly to the employee on each pay day.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
COUNTY - OCEAN

ESTABLISHMENT OF RATIO OF APPRENTICES TO JOURNEYMEN FOR PUBLIC WORK PROJECTS, N.J.A.C.
12:60-7.

"Apprentice" means an individual who, while performing work on a public work project, is registered, in good standing, in an apprenticeship program approved or certified by the Division of Vocational Education in the New Jersey Department of Education or by the Bureau of Apprenticeship and Training in the United States Department of Labor.

If there is no ratio of apprentices to journeymen for a particular craft, then the ratio of apprentice to journeymen shall be one apprentice to every four journeymen.

If there is no apprentice rate provided, the employer shall pay the employees not less than the journeyman rate even if an employee is registered in an apprentice program for that trade.

EFFECTIVE DATE: 10-10-90

APPRENTICE TO JOURNEYMEN RATIO SCHEDULE

CRAFT	RATIO	CRAFT	RATIO
AIR CONDITIONING & REFRIGERATION	1:4	IRONWORKER (STRUCTURAL)	1:7
ASBESTOS WORKER	1:4	IRONWORKER (ORNAMENTAL)	1:4
BOILERMAKER	(1)*	MARBLE SETTER	1:4
BRICKLAYER	1:7	MILLWRIGHT	(2)*
CARPENTER	(2)*	PAINTER	1:4
CARPENTER'S RESILIENT FLOORING	(3)*	PIPEFITTER	1:4
CEMENT MASON	1:7	PLASTERER	1:7
CEMENT FINISHER	1:7	PLUMBER	1:4
DOCKBUILDER	1:4	ROOFER	(4)*
DRYWALL FINISHER	1:3	SHEETMETAL WORKER	1:3
ELECTRICIAN	1:3	SPRINKLER FITTER	1:2
GLAZIER	1:2	STONE MASON	1:7
		TILE SETTER	1:4

* SEE BELOW:

- (1) BOILERMAKER: (One apprentice will be allowed for the first 5 journeymen, 1 apprentice for the next 10 journeymen and 1 apprentice for each succeeding 20 journeymen up to a maximum of 5 apprentices per contractor on any one job.
- (2) CARPENTER & MILLWRIGHT: An employer who employs two or more journeymen may employ 1 apprentice. Thereafter he shall be allowed 1 apprentice for each additional 4 journeymen.
- (3) CARPENTERS RESILIENT FLOORING: One apprentice shall be allowed to every two journeymen or major fraction thereof. No more than three apprentices on any one job or project.
- (4) ROOFER: 1:2; 1:3 for built up roofs & reroofing.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
1-7-93

OVERTIME RATE SCHEDULE FOR CRAFTS IN THE STATE OF NEW JERSEY

- (1) Double the hourly rate for all hours worked in excess of 7 a day and Saturdays, Sundays, and Holidays. See note.
- (2) Double the hourly rate for all hours worked in excess of 8 a day and Saturdays, Sundays, and Holidays. See note.
- (3) Time and one half the hourly rate after 8 hours a day Monday through Thursday. Double the hourly rate after 8 hours on Friday and all hours worked on Saturdays, Sundays and Holidays. See note.
- (3a) The first two (2) hours of overtime, Monday through Friday shall be paid at time and one-half (1 1/2) rate. All hours of overtime worked after ten (10) hours per day, Monday through Friday, shall be paid at the double time rate, and double time shall be paid for all work on Saturdays, Sundays and Holidays on heavy construction work. Building construction work, tank erectors work and water crossings pertaining to all bi-state pipe line work, bi-state tunnel and bi-state bridge construction, alteration or resurfacing work on bi-state projects.
On Highway, Road, Street and Sewer Construction and Grading and Paving Work (other than inside building and structures and bi-state tunnels and bridges) time and one-half shall apply to hours worked over eight (8) hours per day and all hours worked on Saturday. Sundays and Holidays worked shall be paid at the double time rate.
(a) - Where Saturdays, Sundays or Holidays (or days celebrated as such) are worked, the employees covered by this agreement shall be paid on a unit basis of one day at the specified overtime rates.
- (4) Time and a half the hourly rate after 8 hours a day and on Saturdays, Sundays and Holidays.
- (5) Time and a half the hourly rate after 8 hours per day and Saturdays. Double the hourly rate on Sundays and Holidays.
- (6) Time and one-half the hourly rate after 7 hours per day on new work, and 8 hours per day on old re-roofing work. Time and one-half for work on Saturdays, Sundays and Holidays.
- (7) Time and a half the hourly rate after 7 hours per day and double the hourly rate on Saturdays, Sundays and Holidays.
- (8) Time and one-half for the first 2 hours of overtime after 8 hours on Monday through Friday; double time thereafter. Double time on Saturdays, Sundays and Holidays.
- (9) Forty hours shall constitute a weeks work. Eight hours per day, 5 days per week. Overtime shall be at the rate of time and one-half for all hours over 8 in a day and 40 in a week. In the event a day's work is lost due to weather conditions, 8 hours on Saturday may be worked at straight time to make up the lost day. All hours on Sundays and Holidays shall be at the double time rate.
- (10) Double the hourly rate, including benefits, for all hours worked in excess of 7 a day and Saturdays, Sundays and Holidays. See note.
- (11) Double the hourly rate, including benefits, for all hours worked in excess of 8 a day and Saturdays, Sundays and Holidays. See note.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
1-7-93

OVERTIME RATE SCHEDULE FOR CRAFTS IN THE STATE OF NEW JERSEY

- (12) Time and one-half the hourly rate for all hours worked in excess of 7 a day, and double the rate for all hours on Saturdays, Sundays and Holidays. All fringe benefits on overtime shall be paid at one and one-half the fringe benefit rate. Whenever any of the other basic building trades work an 8th hour at straight time, employees in this craft will work the 8th hour at straight time. See note.
- (13) Time and one-half the hourly rate including benefits for all hours over 8 in a day. Double time for all hours on Saturday, Sunday and Holidays. Benefits on double time work are paid at time and one-half.
- (14) Time and one-half for the first 2 hours of overtime after 8 hours on Mondays through Fridays (Except in Atlantic City - All overtime hours are double time). Double time thereafter. Double time on Saturdays, Sundays & Holidays.
- (15) All hours worked in excess of eight straight time hours a day during any twenty-four hour period, and forty hours a week, Monday through Friday, shall be paid at twice the wage rate. a) On bridge construction, bridge repair and highway work, all overtime work Monday through Friday will be paid at time and one-half; all hours worked on Saturdays will be paid at time and one-half. Hours worked on Sundays and Holidays will be paid at double time.
- (16) Time and one-half the hourly rate for the 9th and 10th hours on Mondays through Fridays; double time thereafter. Time and one-half for the first 10 hours on Saturdays; double time thereafter. Double time on Sundays and Holidays.
- (17) Time and one-half the hourly rate for the 9th & 10th hours on Mondays thru Fridays; double time thereafter. Time and one-half for the first 10 hours on Saturdays, double time thereafter. Double time on Sundays & Holidays. When overtime is worked, fringe benefits shall be double time or time and one-half, depending on the overtime rate.
- (18) Eight hour day, forty hour week (Monday through Sunday inclusive.) All work over eight (8) hours in any one day or all work over forty (40) hours in any one week shall be paid at the rate of time and one-half.
- (19) Time and one-half the hourly rate including benefits for the first three (3) hours of overtime after seven (7) hours per day, double time thereafter. Double time on Saturdays, Sundays and Holidays.
- (20) Time and one-half the hourly rate for the first three (3) hours of overtime after eight (8) hours per day, double time thereafter. Double time on Saturdays, Sundays and Holidays.
- (21) Double the hourly rate, including benefits, for all hours over 7 a day, and on Saturdays, Sundays and Holidays.
- (22) Time and one-half the hourly rate after eight (8) hours per day and forty (40) hours per week. Time and one-half for hours worked on Saturdays. Double time for hours worked on Sundays and Holidays. Whenever any other crafts are working overtime and are receiving double time for overtime, double time shall be paid.
- (23) Time and one-half the hourly rate for the 9th and 10th hours on Mondays through Fridays; double time thereafter. Time and one-half for the first 8 hours on Saturdays; double time thereafter. Double time on Sundays and Holidays.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
1-7-93

OVERTIME RATE SCHEDULE FOR CRAFTS IN THE STATE OF NEW JERSEY

- (24) Time and one-half the hourly rate for the first hour after 8 hours per day Monday through Friday, double time thereafter. Double time on Saturdays, Sundays and Holidays.
- (25) Time and one-half the hourly rate including benefits after 7 hours per day and double the hourly rate including benefits on Saturdays, Sundays and Holidays. See note.
- (26) Time and one-half the hourly rate including benefits after 8 hours per day. Double the hourly rate including benefits on Saturdays, Sundays and Holidays. See note.
- (27) Time and one-half the hourly rate including benefits for the 9th and 10th hours on Monday through Friday, double time including benefits thereafter. Time and one-half including benefits for the first 8 hours on Saturday. Double time including benefits thereafter. Double time on Sundays and Holidays.
- (28) Time and one-half the hourly rate including benefits for the 9th and 10th hours on Mondays through Fridays; double time thereafter. Time and one-half including benefits for the first 10 hours on Saturdays; double time thereafter. Double time including benefits on Sundays and Holidays.
- (29) Time and one-half the hourly rate including benefits for the first two hours of overtime after 8 hours per day, double time thereafter. Double time including benefits for all hours on Saturdays, Sundays and Holidays.
- (30) Time and a half the hourly rate including benefits after 8 hours per day and Saturdays. Double the hourly rate including benefits on Sundays and Holidays.
- (31) Time and one-half after eight hours for the first four hours of overtime including benefits on Monday thru Friday, remaining time at double time; the first eight hours on Saturday shall be at time and one-half including benefits, the remaining time at double time. Double time including benefits on Sundays and Holidays.
- (32) Time and one-half the hourly rate including benefits for all hours over 8 in a day. Double time for all hours on Saturday, Sunday and Holidays. Benefits on double time work are paid at time and one-half.
- (33) Time and one-half the hourly rate over 8 hours per day and 40 hours per week. Time and one-half on Sundays, and double time and one-half on Holidays.
- (34) Eight hours shall constitute the regular work day. Any two hours of overtime per day, Monday through Friday, shall be at time and one-half including benefits. Any other overtime shall be at double time rate including benefits. All work performed on Saturdays and Sundays shall be paid at double time rate including benefits. All work performed on Holidays by a Journeyman shall be at double time including benefits. Foreman working on a Holiday receive double time for hours worked plus 8 hours holiday pay including benefits.

NEW JERSEY DEPARTMENT OF LABOR
PREVAILING WAGE RATE DETERMINATION
1-7-93

OVERTIME RATE SCHEDULE FOR CRAFTS IN THE STATE OF NEW JERSEY

- (35) Double time for all hours over 7 a day and Saturdays, Sundays and Holidays. All fringe benefits on overtime shall be paid at one and one-half the fringe benefit rate. Whenever any of the other basic building trades work an 8th hour at straight time, employees in this craft will work the 8th hour at straight time.
- (36) Time and a half the hourly rate after 8 hours per day and Saturdays. Double the hourly rate on Sundays and Holidays. Workers may work 4 ten hour days, Monday through Thursday at straight time pay. Friday shall be used as a make up day for days lost due to inclement weather or for other mutually agreed reason. If Friday is not a make up day, all hours worked on Friday shall be paid at time and one-half.
- (37) Double the hourly rate for all hours over 7 per day, and for all hours on Saturdays and Sundays. Triple the hourly rate for all hours on Holidays.
- (38) Time and one-half the hourly rate for all hours over 8 per day, and for all hours on Saturdays and Sundays. Double time and one-half for all hours on Holidays.
- (39) Time and one-half the hourly rate over 8 hours per day and 40 hours per week. Double time on Sundays, and double time and one-half on Holidays.
- (40) Time and one-half the hourly rate after 8 hours per day and on time and one-half for all hours on Saturdays. Double time and one-half the rate on Sundays and Holidays.
- (41) Time and one-half the hourly rate including fringe benefits for the first two (2) hours worked after 8 hours per day Monday through Friday, and time and one-half the hourly rate including fringe benefits for the first 10 hours on Saturday. All other hours of work, except for Holiday, shall be paid at double times the rate including benefits. Double time the hourly rate including benefits on Sundays and Holidays, and Triple time the rate including benefits on Labor Day, Christmas Day, New Year's Day and Easter Sunday.

NOTE: Except as applies to Carpenters engaged in other than building construction. In such instances use (3).



STATE OF NEW JERSEY
DEPARTMENT OF LABOR
DIVISION OF WORKPLACE STANDARDS
LABOR BUILDING
CN 389
TRENTON, NEW JERSEY 08625-0389

RAYMOND L. BRAMUCCI
Commissioner

LEONARD KATZ
Assistant Commissioner

APRIL 14, 1993

LISTED CONTRACTORS AND SUBCONTRACTORS

PURSUANT TO N.J.S.A. 34:11-56.37 and 34:11-56.38 - PREVAILING WAGE ACT

NO PUBLIC WORKS CONTRACT MAY BE AWARDED TO ANY OF THE FOLLOWING CONTRACTORS AND SUBCONTRACTORS OR TO ANY FIRM, CORPORATION OR PARTNERSHIP IN WHICH THEY HAVE AN INTEREST UNTIL THE EXPIRATION DATE GIVEN.

<u>CONTRACTOR AND SUBCONTRACTOR</u>		<u>EXPIRATION DATE:</u>
EXCLUSIVE GLASS CORPORATION	529 WAVERLY AVENUE, BROOKLYN, NY 11238	04-30-93
PAYNTER CONSTRUCTION, INC	249 GREENWICH AVE, PAULSBORO, NJ 08066	04-30-93
LAWRENCE PAYNTER, PRESIDENT	249 GREENWICH AVE, PAULSBORO, NJ 08066	04-30-93
RANDY OWENS T/A RACON GENERAL CONTRACTING	P O BOX 444, ALLENHURST NJ 07721	06-11-93
RANDY OWENS	5912 LAKE CHAMPLAIN DRIVE TUCKERTON NJ 08087	06-11-93
MARTIN HURYN T/A M T HURYN TRUCKING	114 WILLOW COURT, MT HOLLY, NJ 08060	06-11-93
ROYAL FINISHERS INC	ATLANTIC AVENUE, BLDG 3-G, P. O. BOX 351, SICKLERVILLE, NJ 08081	06-11-93
JOSEPH E PLAYER, PRESIDENT ROYAL FINISHERS INC	ATLANTIC AVENUE, BLDG 3-G, P. O. BOX 351, SICKLERVILLE, NJ 08081	06-11-93
MARY PLAYER, VICE PRESIDENT ROYAL FINISHERS INC	642 SPRINGDALE CIRCLE, PALM SPRINGS, FL	06-11-93
SANDRA PLAYER, SECRETARY/TREASURER ROYAL FINISHERS INC	4920 CANAL DRIVE, FORT WORTH, FL	06-11-93
STRUCTURE CORPORATION OF NEW JERSEY INC	156 MAIN STREET, HACKENSACK, NJ 07601	07-30-93
E. SCOCCIMARRO, PRESIDENT	156 MAIN STREET, HACKENSACK, NJ 07601	07-30-93

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GREEN BAY CONSTRUCTION INC GRADY G TOUGHILL, PRESIDENT & SECRETARY	P O BOX 591, PINE BEACH, NJ 08741 306 STATION AVENUE, PINE BEACH, NJ 08741	07-30-93 07-30-93
NU-TECH CONSTRUCTION MANAGEMENT INC	131 HALSTEAD AVENUE, MAMARONECK, NY 10543	09-12-93
WEATHER TIGHT INSULATION CO INC DONALD MCKNIGHT, PRESIDENT SHARON MCKNIGHT, SECRETARY	28 S RIVER DRIVE, COLLINGS LAKES, NJ 08094 28 S RIVER DRIVE, COLLINGS LAKES, NJ 08094 28 S RIVER DRIVE, COLLINGS LAKES, NJ 08094	09-12-93 09-12-93 09-12-93
T. PACE COMPANY INC TADEUSZ PACEWICZ, PRESIDENT	851 RIFLE CAMP ROAD, W PATERSON, NJ 07424 851 RIFLE CAMP ROAD, W PATERSON, NJ 07424	11-09-93 11-09-93
RONALD LUDEN T/A LUDENS CONSTRUCTION INC	RR 1 BOX 60, BALTIC, SD 57003	11-29-93
OLENA CONSTRUCTION CORP	7814 13TH AVENUE, BROOKLYN, NY 11228	11-29-93
ROBERT BRADY T/A PIONEER CONTRACTING CO	136 HADDON AVENUE, WESTMONT, NJ 08107	12-07-93
JOHN MONFORTO T/A MONFORTO ELECTRIC	113 E PARK AVENUE, MERCHANTVILLE, NJ	12-19-93
KORAL CONSTRUCTION INC KENNETH A FISH, PRESIDENT JOSEPH YATES, VICE-PRESIDENT	P O BOX 2058, VINCENTOWN, NJ 08088 44 OAK LANE, VINCENTOWN, NJ 08088 107 NEW ROAD, VINCENTOWN, NJ 08088	01-04-94 01-04-94 01-04-94
JAMES MCDERMOTT T/A JIM MCDERMOTT ROOFING	816 CENTRE STREET, TRENTON, NJ 08611	01-25-94
BARRY O. HORNER & SONS INC BARRY O. HORNER, PRESIDENT BARBARA J. HORNER, SECRETARY/TREASURER	RR 2 BOX 81H - RT. 532, WARETOWN, NJ 08758 RR 2 BOX 81H - RT. 532, WARETOWN, NJ 08758 RR 2 BOX 81H - RT. 532, WARETOWN, NJ 08758	01-28-94 01-28-94 01-28-94
RAGUSA CONSTRUCTION COMPANY INC CHARLES RAGUSA	265 OLD WHITE HORSE PIKE, ATCO, NJ 08004 265 OLD WHITE HORSE PIKE, ATCO, NJ 08004	01-31-94 01-31-94
PARADIS DRYWALL CONSTRUCTION CO ERIC PARADIS, PARTNER RACHEL PARADIS, PARTNER	835 WESLEY AVENUE, OCEAN CITY, NJ 08226 835 WESLEY AVENUE, OCEAN CITY, NJ 08226 835 WESLEY AVENUE, OCEAN CITY, NJ 08226	02-13-94 02-13-94 02-13-94
GLOBAL OCEANIC ENTERPRISES INC RICHARD J COPPOLA PRESIDENT	P O BOX 99, LANGHORNE, PA 19047 P O BOX 99, LANGHORNE, PA 19047	03-04-94 03-04-94
LION FENCE COMPANY, INC GEORGE A GLANDZ PRESIDENT	739 GARFIELD AVENUE, TOMS RIVER, NJ 08753 739 GARFIELD AVENUE, TOMS RIVER, NJ 08753	03-27-94 03-27-94
ABATO SALES INC D/B/A ABATO INDUSTRIES DENNIS ABATO PRESIDENT & SECRETARY	565 TONNELLE AVENUE, JERSEY CITY, NJ 07307 565 TONNELLE AVENUE, JERSEY CITY, NJ 07307	04-01-94 04-01-94
LOR JEN CONSTRUCTION CO, INC ILCO GEORGIEW, PRESIDENT	14 3RD AVENUE, ROSELAND, NJ 07068 11 BOTANY VILLAGE SQUARE WEST, CLIFTON, NJ 07011	04-04-94 04-04-94

PRO POOL SERVICE, INC	ELM AND POPLAR STREETS, P O BOX 718	
ANNA M PROIETTO, PRESIDENT	CONSHOHOCKEN, PA 19428	04-10-94
	PAULINGS ROAD, PHOENIXVILLE, PA 19453	04-10-94
EFFICIENT AIR, INC	75 ARMSTRONG DRIVE, CLARK, NJ 07066	04-10-94
GUENTHER A. P. KRYSZON, PRESIDENT	75 ARMSTRONG DRIVE, CLARK, NJ 07066	04-10-94
MARGARET KRYSZON, SECRETARY-TREASURER	75 ARMSTRONG DRIVE, CLARK, NJ 07066	04-10-94
ZAT CONSTRUCTION, INC	125 AMBOY AVENUE, METUCHEN, NJ 08840	04-10-94
DAVID ZISKOSKI, PRESIDENT	125 AMBOY AVENUE, METUCHEN, NJ 08840	04-10-94
GERALD TATROW, VICE PRESIDENT	28 FOXCROFT DRIVE, PRINCETON, NJ 08540	04-10-94
PAUL MARSA, SECRETARY-TREASURER	127 AMBOY AVENUE, METUCHEN, NJ 08840	04-10-94
MEMS ENERGY SYSTEMS, INC	123 BRYN MAWR AVENUE, BALA CYNWYD, PA 19004	04-18-94
MARC G HOYER, PRESIDENT	123 BRYN MAWR AVENUE, BALA CYNWYD, PA 19004	04-18-94
GREEN ACRES LANDSCAPING CONTRACTORS T/A CHERRY HILL CONCRETE PUMPING AND PLACING CONTRACTORS	2405 CHURCH ROAD, CHERRY HILL, NJ 08034	04-18-94
ANTHONY G PALMA, PRESIDENT	1207 PAMS PATH, CHERRY HILL, NJ 08034	04-18-94
MATEUS CONSTRUCTION, INC	P O BOX 5065, OLD BRIDGE, NJ 08857	04-29-94
MARIO SEIXEIRO, PRESIDENT	53 MERCER STREET, SOUTH RIVER, NJ 08882	04-29-94
LEWIS E HOLLY T/A LEWIS E HOLLY ASSOCIATES	7353 KIMBERLY AVENUE, BIRMINGHAM, AL 35206	04-29-94
VELS BUILDING COMPANY, INC.	6 NENNINGER LANE, E BRUNSWICK, NJ 08861	04-29-94
LEONIK SHIKMAN, PRESIDENT	6 NENNINGER LANE, E BRUNSWICK, NJ 08861	04-29-94
STEEL CITY DRYWALL, INC	RD 1 BOX 145, HOPEWELL, NJ 08525	04-29-94
GARRY M MCVICKER, PRESIDENT	RD 1 BOX 145, HOPEWELL, NJ 08525	04-29-94
JOSEPH A BABIARZ, VICE-PRESIDENT	RD 1 BOX 145, HOPEWELL, NJ 08525	04-29-94
GINO DIBATTISTA T/A DIBATTISTA CONTRACTORS	436 STATE STREET, CHERRY HILL, NJ 08002	04-30-94
JESSE EL D/B/A JESSE EL CONSTRUCTION T/A J & E MASONRY	228 BROAD LANE ROAD, WILLIAMSTOWN, NJ 08094	06-16-94
PAUL J GROSS, INC	360 HIGHWAY 36, DRAWER T, NAVESINK, NJ 07752	06-16-94
PAUL J GROSS, PRESIDENT	360 HIGHWAY 36, DRAWER T, NAVESINK, NJ 07752	06-16-94
ALBERT MARINE CONSTRUCTION INC	206 N MAIN STREET, FORKED RIVER, NJ 08731	06-18-94
ROBERT ALBERT, PRESIDENT	206 N MAIN STREET, FORKED RIVER, NJ 08731	06-18-94
VICKI ALBERT, SECRETARY	206 N MAIN STREET, FORKED RIVER, NJ 08731	06-18-94
DOBRIC, INC	40 BURLINGTON AVENUE, PATERSON, NJ 07502	07-02-94
GORAN DOBRIC, PRESIDENT	40 BURLINGTON AVENUE, PATERSON, NJ 07502	07-02-94

S N C INSULATION INC	33-03 36TH AVENUE, LONG ISLAND CITY, NY 11106	07-02-94
WALTER SCHMIDICHEN, PRESIDENT	33-03 36TH AVENUE, LONG ISLAND CITY, NY 11106	07-02-94
J & D DRYWALL	35 STERNBERGER AVENUE APT J, WEST END, NJ 07740	07-02-94
JOHN SNYDER, PARTNER	35 STERNBERGER AVENUE APT J, WEST END, NJ 07740	07-02-94
DAVID KERSEY, PARTNER	35 STERNBERGER AVENUE APT J, WEST END, NJ 07740	07-02-94
SEAGULL ENVIRONMENTAL MANAGEMENT	R D 2, BOX 205, SWEDESBORO, NJ, 08085	08-01-94
GORDON K YETTER, PRESIDENT	R D 2, BOX 205, SWEDESBORO, NJ, 08085	08-01-94
CONTINENTAL RESTORATION INC	513 CINNAMINSON STREET, P O BOX 109, RIVERTON, NJ 08077	08-01-94
MARK ZAGUNIS, PRESIDENT	513 CINNAMINSON STREET, P O BOX 109, RIVERTON, NJ 08077	08-01-94
AMERICAN FOUNDATION CONTRACTORS, INC	123 HEDGEROW DRIVE, CHERRY HILL, NJ, 08002	08-01-94
THOMAS WILLIAMS, PRESIDENT	123 HEDGEROW DRIVE, CHERRY HILL, NJ, 08002	08-01-94
J C ENTERPRISES	458 VALLEY STREET, ORANGE NJ 07050	08-14-94
JOHN CIMINO PRESIDENT	45 MISSISSIPPI AVENUE, WEST ORANGE NJ 07052	08-14-94
M B F ELECTRICAL CONTRACTORS INC	4-B GREAT MEADOW LANE, EAST HANOVER NJ 07936	08-14-94
MICHAEL B FINKEL PRESIDENT	4-B GREAT MEADOW LANE, EAST HANOVER NJ 07936	08-14-94
RUEIRO RESTORATION CORP	306 ELM STREET, NEWARK NJ 07105	08-14-94
JUAN L SANLES PRESIDENT	306 ELM STREET, NEWARK NJ 07105	08-14-94
JOHN BLAIR INC T/A		
GARDEN STATE ROOFING & SIDING CO	646 PALMER AVENUE, EAST KEANSBURG, NJ 07734	08-14-94
JOHN A BLAIR PRESIDENT	646 PALMER AVENUE, EAST KEANSBURG, NJ 07734	08-14-94
SYSTEMS CONNECTIONS OF DELAWARE	8520 CORRIDOR ROAD, SUITE L, SAVAGE, MD 20763	09-03-94
CAMPBELL BROOKS PRESIDENT	657 CORSICA DRIVE, BEAR, DE 19720	09-03-94
CASABIEL STEEL FABRICATORS INC	160 LAFAYETTE STREET, JERSEY CITY, NJ 07304	09-03-94
PHILIP J CASAS PRESIDENT	181 RIVER ROAD, NUTLEY, NJ 07110	09-03-94
MICHAEL BIELAK VICE PRESIDENT	287 ST PAULS AVENUE, JERSEY CITY, NJ 07306	09-03-94
ATLAS ENTERPRISES INC	5012 FRIENDSHIP STREET, PHILADELPHIA, PA 19135	09-16-94
CARLEY WEISS PRESIDENT	5012 FRIENDSHIP STREET, PHILADELPHIA, PA 19135	09-16-94
PHILLIP WEISS VICE PRESIDENT	5012 FRIENDSHIP STREET, PHILADELPHIA, PA 19135	09-16-94
LOR JEN QUALITY HOMES INC	14 3RD AVENUE, ROSELAND, NJ 07068	09-24-94
ILCO GEORGIEW PRESIDENT	11 BOTANY VILLAGE SQUARE WEST, CLIFTON NJ 07011	09-24-94
BILLY JOE HUMPHREY	P O BOX 492, LAWRENCEBURG, TE 38464	09-24-94
MARK WASHKO T/A		
BMC CUSTOM CARPENTRY	253 SHORE BOULEVARD, BAYVILLE NJ 08721	09-26-94
AMERICAN CRAFTSMEN	4 WEST PALISADE AVENUE, SUITE 111 ENGLEWOOD, NJ 07631	10-03-94
EDWARD RUBIO, PRESIDENT	92 KNICKERBOCKER ROAD, ENGLEWOOD, NJ 07632	10-03-94

PETERSEN ASSOCIATES INC	4319 LEIPER STREET, PHILADELPHIA, PA 19124	10-10-94
JOHN PETERSEN PRESIDENT	4319 LEIPER STREET, PHILADELPHIA, PA 19124	10-10-94
ANNA M PETERSEN		
SECRETARY/TREASURER	4319 LEIPER STREET, PHILADELPHIA, PA 19124	10-10-94
PHILIP MAMRAK T/A		
P M CONSTRUCTION CO	531 VICTORY AVENUE, PHILLIPSBURG, NJ 08865	10-15-94
DTR ENTERPRISES & CONTRACTING INC	1611 BEAVER DAM ROAD, PT PLEASANT, NJ 08742	10-20-94
DENNIS T ROBERTS, PRESIDENT	108 VIOLET LANE, JACKSON, NJ 08527	10-20-94
INTERSTATE CONTRACTORS, INC	216 WHALEN STREET, MANVILLE, NJ 08835	12-08-94
MICHAEL REHSAW, PRESIDENT	216 WHALEN STREET, MANVILLE, NJ 08835	12-08-94
JACQUELINE NADEAU,		
SECRETARY-TREASURER	216 WHALEN STREET, MANVILLE, NJ 08835	12-08-94
EARNEST NADEAU, VICE PRESIDENT	29 HEMLOCK STREET, FLEMINGTON, NJ 08822	12-08-94
B H R CONTRACTING	33 NAUTILUS DRIVE, LEONARDO, NJ 07737	01-29-95
JAMES E BETZ, PRESIDENT	33 NAUTILUS DRIVE, LEONARDO, NJ 07737	01-29-95
SPORTS & TENNIS COURTS	24 HARPERS FERRY ROAD, TOMS RIVER, NJ 08753	02-23-95
CONSTRUCTION INC		
MICHAEL SMIT, PRESIDENT	24 HARPERS FERRY ROAD, TOMS RIVER, NJ 08753	02-23-95
JMF FRAMING CONTRACTORS	112 GARDEN STREET, MT. HOLLY, NJ 08060	02-23-95
JAMES M FITZGERALD, OWNER	112 GARDEN STREET, MT. HOLLY, NJ 08060	02-23-95
CUSTOM STONE & STUCCO WORKS INC		
T/A SUPERIOR MASONRY	1889 US HIGHWAY 9 BLDG 21, TOMS RIVER, NJ 08754	04-02-95
RALPH V GIBILISCO, PRESIDENT	2051 CHURCH ROAD, TOMS RIVER, NJ 08753	04-02-95
TED SUPRANOWICZ PLUMBING &		
HEATING, INC	54 FREEDOM ROAD, SEWELL, NJ 08080	05-06-95
THEODORE SUPRANOWICZ, PRESIDENT	54 FREEDOM ROAD, SEWELL, NJ 08080	05-06-95
THEODORE SUPRANOWICZ, JR., VICE		
PRESIDENT	54 FREEDOM ROAD, SEWELL, NJ 08080	05-06-95
ANNE MARIE SUPRANOWICZ, TREASURER	54 FREEDOM ROAD, SEWELL, NJ 08080	05-06-95
MARY SAROS, SECRETARY	2728 PARRISH STREET, PHILADELPHIA, PA 19130	05-06-95
UNITED ASBESTOS REMOVAL CORP	26 INDEPENDENCE STREET, WHITE PLAINS, NY 10606	05-06-95
MERDARDO PALMA PRESIDENT	26 INDEPENDENCE STREET, WHITE PLAINS, NY 10606	05-06-95
ROBERT F PARKER T/A PARKER		
DRYWALL CONSTRUCTION COMPANY	27 AMHERST ROAD, SOUTH TOMS RIVER, NJ 08757	05-06-95
LAURENCE RADAELLI T/A AMR		
CONTRACTING CO	39 SAGAMORE AVENUE, OCEANPORT, NJ 07757	05-06-95
ALLSTATE ROOFING & SIDING CO INC	725 COUNTY LINE ROAD, HUNTINGDON VALLEY,	
	PA 19006	05-06-95
ANTHONY JULIANO PRESIDENT	868 HOSTMAN ROAD, WARMINSTER, PA 18974	05-06-95
NORDIC/CIDRON CONSTRUCTION CO	944 14TH AVENUE, SETHLEHEM, PA 18018	05-06-95
KURT IRON & METAL CORP	3000 CHILDS STREET, BALTIMORE, MD 21226	05-11-95
KURT ELLIS, PRESIDENT	3000 CHILDS STREET, BALTIMORE, MD 21226	05-11-95

EAV CONTRACTING, INC	6-A WILLIAMS STREET, HIGHLANDS, NJ 07732	05-11-95
EARNEST VAUGHN, PRESIDENT	6-A WILLIAMS STREET, HIGHLANDS, NJ 07732	05-11-95
BLUE & WHITE PLUMBING & HEATING INC	2 WESLEY AVENUE #2B, OCEAN CITY, NJ 08226	05-25-95
JOHN O'DONNELL, PRESIDENT	2 WESLEY AVENUE #2B, OCEAN CITY, NJ 08226	05-25-95
AIR PLUS, INC	88 COMMERCE STREET, GARFIELD, NJ 07026	06-03-95
LISA PICINICH, PRESIDENT	51 LAFAYETTE AVENUE, CLIFFSIDE PARK, NJ 07010	06-03-95
LIONEL B GITTENS, JR	8 WEST PEARL STREET, BURLINGTON, NJ 08016	06-04-95
SHEILA GITTENS	8 WEST PEARL STREET, BURLINGTON, NJ 08016	06-04-95
THERMAL WINDOW SYSTEMS, INC	809 STUYVESANT AVENUE, IRVINGTON, NJ 07111	07-12-95
THOMAS LUKOWIAK, PRESIDENT	42 HUCK ROAD, BLOOMFIELD, NJ 07003	07-12-95
CASTELOS CONSTRUCTION CORP	17 ELM STREET APT 2R, NEWARK, NJ 07102	07-12-95
JOAO LUIS GOMES ASSIS, PRESIDENT	17 ELM STREET APT 2R, NEWARK, NJ 07102	07-12-95
PIONEER DEVELOPMENT CORPORATION	203-209 NORTH 12TH STREET, NEWARK, NJ 07107	07-12-95
RALPH HOOEY, PRESIDENT	1 LAUREL WOODS DRIVE, BLAIRSTOWN, NJ 07825	07-12-95
ANDREW OSTERGAARD, SECRETARY	503A BLACK BROOK DRIVE, HAMPTON, NJ 08827	07-12-95
AUTOTRON ELECTRIC, INC	76 FAYETTE STREET, PERTH AMBOY, NJ 08861	07-21-95
LEONARD TEITEL, PRESIDENT	8 EAGLE HILL ROAD, HOLMDEL, NJ 07733	07-21-95
SCHOONER CONTRACTING, INC	812 MASSACHUSETTS AVENUE, P O BOX 189, SOMERS POINT, NJ 08244	07-21-95
RICHARD IFFLANDER, PRESIDENT	812 MASSACHUSETTS AVENUE, P O BOX 189, SOMERS POINT, NJ 08244	07-21-95
JOHN HEFFERNAN T/A J & B MECHANICAL	449 WOODCLIFF ROAD, UPPER DARBY, PA 19082	07-21-95
JOHN SZMEHOL, OWNER SZMEHOL CONSTRUCTION CO	70 CAMBRIDGE AVENUE, GARFIELD, NJ 07026	07-21-95
LONGO CONSTRUCTION CO., INC	5010 INDUSTRIAL ROAD, FARMINGDALE, NJ 07727	08-06-95
VINCENT LONGO, PRESIDENT	5010 INDUSTRIAL ROAD, FARMINGDALE, NJ 07727	08-06-95
N H & M CONSTRUCTION, INC	1026 OLD CORLIES AVENUE, NEPTUNE, NJ 07753	08-06-95
CHARLES F NEWBURY, JR, PRESIDENT	120 MINIHABA TRAIL, MANASQUAN, NJ 08736	08-06-95
MARK HERMAN, VICE-PRESIDENT	327 PINE AVENUE, MANASQUAN, NJ 08736	08-06-95
TULIO LANDSCAPING, INC	4 WASHINGTON SQUARE, DOYLESTOWN, PA 18901	08-16-95
MICHAEL TULIO, PRESIDENT	4 WASHINGTON SQUARE, DOYLESTOWN, PA 18901	08-16-95
JOSEPH TULIO, VICE-PRESIDENT	4 WASHINGTON SQUARE, DOYLESTOWN, PA 18901	08-16-95
SANTINA TULIO, SECRETARY/TREASURER	4 WASHINGTON SQUARE, DOYLESTOWN, PA 18901	08-16-95
JUNE ELECTRICAL CONTRACTING, INC	172A OLD FORGE ROAD, JAMESBURG, NJ 08831	08-27-95
ANTHONY VENTOLO, PRESIDENT	172A OLD FORGE ROAD, JAMESBURG, NJ 08831	08-27-95
RONALD DIEROLF	179 BEAVER DAM ROAD, P O BOX 2034, BRISTOL, PA 19007	10-01-95
MARY DIEROLF	179 BEAVER DAM ROAD, P O BOX 2034, BRISTOL, PA 19007	10-01-95

WARREN'S MASONRY	22 DRUMMOND AVENUE, RED BANK, NJ 07701	10-07-95
WARREN M HOWELL, OWNER	22 DRUMMOND AVENUE, RED BANK, NJ 07701	10-07-95
M & A PAINTING CONTRACTORS	1255 S 49TH STREET, PHILADELPHIA, PA 19143	10-07-95
ALEXANDER LOWE, OWNER	1255 S 49TH STREET, PHILADELPHIA, PA 19143	10-07-95
MARK E LOWE, OWNER	1255 S 49TH STREET, PHILADELPHIA, PA 19143	10-07-95
DINATALE MECHANICAL CONTRACTORS	P O BOX 55060, TRENTON, NJ 08638	10-07-95
JOSEPH W DINATALE, PRESIDENT	P O BOX 55060, TRENTON, NJ 08638	10-07-95
COSTA CONSTRUCTION CORP	80 BROADWAY, CRESSKILL, NJ 07626	10-07-95
JEFFREY COSTA, PRESIDENT	25 BOGERT STREET, CLOSTER, NJ 07624	10-07-95
BRITO'S CONCRETE	444 UNION AVENUE, ELIZABETH, NJ 07208	10-07-95
MANUEL BRITO, OWNER	444 UNION AVENUE, ELIZABETH, NJ 07208	10-07-95
SUNRISE ALUMINUM & GLASS CORP	517 7TH STREET, UNION CITY, NJ 07087	10-07-95
AKTHAM ABUHOURLAN, PRESIDENT	20 S VAN BRUNT STREET, ENGLEWOOD, NJ 07631	10-07-95
LINTON SPENCER, VICE-PRESIDENT	517 7TH STREET, UNION CITY, NJ 07087	10-07-95
PROJECT DEVELOPMENT INC	225 SOUTH CHESTER ROAD, SWARTHMORE, PA 19081	10-21-95
HARRY FOREST PRESIDENT	225 SOUTH CHESTER ROAD, SWARTHMORE, PA 19081	10-21-95
FELLNOR & SON CUSTOM DRYWALL CONSTRUCTION, INC	1215 PINEGROVE STREET, BRISTOL, PA 19007	10-26-95
RONALD FELLNOR, JR, PRESIDENT	1215 PINEGROVE STREET, BRISTOL, PA 19007	10-26-95
ROBERT J LYNCH T/A R J LYNCH AND SONS	960 BLOOMFIELD AVENUE - B-1, GLEN RIDGE, NJ 07068	10-26-95
S C CONSTRUCTION CORP	109 WHITE OAK LANE, SUITE 72, OLD BRIDGE, NJ 08857	11-04-95
STEVEN COSTANTIN, PRESIDENT	37 UPPER BROOK COURT, PARLIN, NJ 08859	11-04-95
ARTHUR G CHRISTOPOULOS	299 WEBRO ROAD, PARSIPPANY, NJ 07054	11-08-95
KEVIN J MCMAHON	37 OLD MIDDLETON ROAD, ROCKAWAY, NJ 07866	11-08-95
CHARLES G GARABEDIAN	191 CHANDLER ROAD, ANDOVER, MA 01810	11-08-95
DAVID B TIERNEY	280 LIBERTY AVENUE, PITTSBURGH, PA 15222	11-08-95
FOCUSMASTER INC	1839 HOOPER AVENUE, TOMS RIVER, NJ 08753	11-19-95
VITO T PULEIO PRESIDENT	1839 HOOPER AVENUE, TOMS RIVER, NJ 08753	11-19-95
MURATD DOSTOURIAN	595 MORRIS STREET, ORANGE, NJ 07050	11-19-95
KRONOS CONSTRUCTION CORP INC	515 WASHINGTON ROAD, PARLIN, NJ 08859	11-19-95
KOSTANTINOS PAPADOGIANNAKIS, PRESIDENT	515 WASHINGTON ROAD, PARLIN, NJ 08859	11-19-95
P & P HVAC INC	632 CRESCENT DRIVE, BOUND BROOK, NJ 08805	11-19-95
PAULA M WEAVER PRESIDENT	632 CRESCENT DRIVE, BOUND BROOK, NJ 08805	11-19-95

DIVERSIFIED CARPENTRY INC	519 7TH STREET, UNION CITY, NJ 07087	12-15-95
AKTHAM ABUHOURLAN, PRESIDENT	519 7TH STREET, UNION CITY, NJ 07087	12-15-95
ADHAN ABUHOURLAN, TREASURER	519 7TH STREET, UNION CITY, NJ 07087	12-15-95
ANOUSH SHARIFI, SECRETARY	519 7TH STREET, UNION CITY, NJ 07087	12-15-95
S D L ASSOCIATES, INC	325 CHESTNUT STREET, S HACKENSACK, NJ 07606	12-15-95
DIANE F LARENA, PRESIDENT	RD 4, BOX 481A, BLAIRSTOWN, NJ 07825	12-15-95
EDWARD W TOHANCZYN, INC	313 MECRAY LANE, MAPLE SHADE, NJ 08052	12-15-95
EDWARD W TOHANCZYN, PRESIDENT	313 MECRAY LANE, MAPLE SHADE, NJ 08052	12-15-95
INTERSTATE ENVIRONMENTAL COMPANY INC	1022 MORSE DRIVE, P.O. BOX 3284, MAPLE GLEN, PA 19002	01-06-96
JOAN STEIN, PRESIDENT	1022 MORSE DRIVE, P.O. BOX 3284, MAPLE GLEN, PA 19002	01-06-96
TRI-TEMP MECHANICAL INC	94 RAILROAD AVENUE, P.O. BOX 89, MIDDLETOWN, NJ 07718	01-06-96
THOMAS LOMBARDI, PRESIDENT	50 HIGHLAND RIDGE ROAD, FREEHOLD, NJ 07728	01-06-96
QUALITY INSULATION CORP	1282 49TH STREET, BROOKLYN, NY 11219	01-06-96
JOHN PARCIAK, OWNER	1282 49TH STREET, BROOKLYN, NY 11219	01-06-96
MY STOL CONSTRUCTION CORP	40 SIOUX AVENUE, LAKE HIAWATHA, NJ 07034	01-06-96
MICHAEL BROTONS	40 SIOUX AVENUE, LAKE HIAWATHA, NJ 07034	01-06-96
RICHARDSON ENVIRONMENTAL CONTRACTING, INC	253 W FEDERAL STREET, BURLINGTON, NJ 08016	02-04-96
ALBERT D RICHARDSON, PRESIDENT	26 TIMBER LANE, WILLINGBORO, NJ 08046	02-04-96
ADRIENNE DIXON, SECRETARY	26 TIMBER LANE, WILLINGBORO, NJ 08046	02-04-96
J PUTNAM	21 E OVERHILL CIRCLE, MEDIA, PA 19063	02-04-96
COSTA CONSTRUCTION CORP	80 BROADWAY, CRESSKILL, NJ 07626	02-04-96
JEFFREY COSTA, PRESIDENT	80 BROADWAY, CRESSKILL, NJ 07626	02-04-96
SEAL ROOFING, INC.	51 EAST CHURCH ROAD, ELKINS PARK, PA 19117	02-07-96
DELAPUA PIPE CONTRACTORS, INC	31 FOREST DRIVE, LAKEWOOD, NJ 08701	02-07-96
BETH DELAPUA, PRESIDENT	31 FOREST DRIVE, LAKEWOOD, NJ 08701	02-07-96
FRED DELAPUA, VICE-PRESIDENT	31 FOREST DRIVE, LAKEWOOD, NJ 08701	02-07-96
GREAT BAY CONCRETE & MASONRY, INC	703 GREAT BAY DRIVE, SMITHVILLE, NJ 08201	02-07-96
GEORGE MCKEE, PRESIDENT	703 GREAT BAY DRIVE, SMITHVILLE, NJ 08201	02-07-96
D & B CONSTRUCTION, INC	955 SOUTH SPRINGFIELD AVENUE, SUITE 301, SPRINGFIELD, NJ 07081	02-07-96
JOHN DOWNEY, PRESIDENT	955 SOUTH SPRINGFIELD AVENUE, SUITE 301, SPRINGFIELD, NJ 07081	02-07-96
ROSEANN NARDONE, VICE-PRESIDENT	955 SOUTH SPRINGFIELD AVENUE, SUITE 301, SPRINGFIELD, NJ 07081	02-07-96
ANTHONY APICELLA, TREASURER	955 SOUTH SPRINGFIELD AVENUE, SUITE 301, SPRINGFIELD, NJ 07081	02-07-96

A & C IRON'S WORK, INC	204 NEPTUNE AVENUE, APT. A, JERSEY CITY, NJ 07306	02-08-96
RACHEL ARGUELLES, PRESIDENT	204 NEPTUNE AVENUE, APT. A, JERSEY CITY, NJ 07306	02-08-96
PETER ARGUELLES, VICE-PRESIDENT	204 NEPTUNE AVENUE, APT. A, JERSEY CITY, NJ 07306	02-08-96
DAVID TAFT OWNER CHALLENGE CONSTRUCTION CO	156A BAILY CORNER ROAD, WALL NJ 07719	02-24-96
AIR TECH SERVICES, INC	1310 PROSPECT STREET, SUITE B, TRENTON, NJ 08638	03-01-96
DOREEN M DINATALE, PRESIDENT	1310 PROSPECT STREET, SUITE B, TRENTON, NJ 08638	03-01-96
JOSEPH DINATALE, VICE-PRESIDENT	1310 PROSPECT STREET, SUITE B, TRENTON, NJ 08638	03-01-96
R W POWER-MECHANIZED FRAMING AND BUILDING, INC	P O BOX 404, OLD BRIDGE, NJ 08857	03-23-96
RICHARD WALLACE, PRESIDENT, VICE-PRESIDENT AND SECRETARY	32 BENHARTT ROAD, MILLTOWN, NJ 08850	03-23-96
APPROVED CONSTRUCTION CO	1109 MAIN STREET, PATERSON, NJ 07503	03-23-96
PETRU TAPALAGA, PRESIDENT	37 INDIAN ROAD, WAYNE, NJ 07470	03-23-96
DENNIS TAPALAGA, SECRETARY/TREASURER	37 INDIAN ROAD, WAYNE, NJ 07470	03-23-96
LOUIS NITTOLO T/A ATLANTIC CONCRETE & CONSTRUCTION CORP	183 HIGHWAY 34 - SUITE 3, MATAWAN, NJ 07747	03-30-96
H I WRIGHT & SONS INC	9 GLADNEY AVENUE, BAYVILLE, NJ 08721	04-21-96
JOHN P NIDE, PRESIDENT	8 HUMMING BIRD LANE, TOMS RIVER, NJ 08753	04-21-96
JOHN G HURLER, VICE-PRESIDENT	1201 TERRIL ROAD, SCOTCH PLAINS, NJ 07076	04-21-96

SUPPLEMENTARY CONDITIONS

DIVISION 1

INDEX

<u>Number</u>	<u>Description</u>	<u>Page Number</u>
1.01	SUMMARY OF WORK	1
1.02	ABBREVIATIONS	3
1.03	PROJECT ADMINISTRATION	4
1.03.01	Preconstruction Conference	4
1.03.02	Project Meetings	5
1.03.03	Job Site Administration	6
1.03.04	Dimensioning Responsibilities	7
1.03.05	Construction Layout	7
1.03.06	Project Correspondence	8
1.04	SUBMITTALS	8
1.04.01	Notice to Proceed	8
1.04.02	Schedules	8
1.04.03	Certificates of Insurance	8
1.04.04	Samples	11
1.04.05	Shop Drawings	12
1.04.06	Notarized Certification of Compliance	14
1.04.07	Cost Breakdown for Lump Sum Bids	14
1.04.08	Progress Photographs	14
1.04.09	Operations and Maintenance Instructions	15
1.04.10	Operations and Maintenance Binders	16
1.04.11	Maintenance Check Lists	16
1.04.12	Substitutes or "Or Equivalent" Items	17
1.05	TECHNICAL	18
1.05.01	Equipment Foundations	18
1.05.02	OMITTED	18
1.05.03	Electrical Work Other Than Division 16	18
1.05.04	Panels	19
1.05.05	Concrete and Masonry Inserts and Openings	19
1.05.06	OMITTED	21
1.05.07	Welding	21
1.05.08	Bolts, Anchor Bolts, Washers and Nuts	21
1.05.09	Lifting Lugs	22
1.05.10	Standardization of Grease Fittings	22
1.05.11	Grease and Oil (including Reservoirs)	22
1.05.12	Spare Parts, Special Tools and Supplies	22

<u>Number</u>	<u>Description</u>	<u>Page Number</u>
1.06	TEMPORARY FACILITIES	23
1.06.01	Utilities	23
1.06.02	Traffic Control - State, County and Municipal Roads	24
1.07	PRODUCTS	25
1.07.01	Transportation	25
1.07.02	Handling	25
1.07.03	Storage	25
1.07.04	Protection	26
1.08	PROJECT CLOSEOUT	28
1.08.01	Record Drawings	28
1.08.02	Final Cleaning Up	28
1.08.03	Final Inspection	29
1.08.04	Startup	29
1.09	LABORATORY TESTING	29
1.09.01	Services of Testing Laboratory	29
1.09.02	Inspection, Approval	29

SUPPLEMENTARY CONDITIONS

DIVISION 1

1.01 SUMMARY OF WORK

Scope of Work

(A) The work to be done includes the furnishing of all labor, tools, such materials as may be designated, and equipment necessary to complete the work as shown on the drawings and described in the Contract Documents. The work includes, but is not limited to, the following:

- A. Preparation of Construction Progress Schedule to be submitted to the Engineer for approval.
- B. Submission of shop drawings, as required for all items stated in the specifications, for approval prior to fabrication.
- C. Township Board of Education Vehicle Refueling Facility shall include the following:
 - 1. Preparation, clear site and mobilization, as required for all work.
 - 2. Furnish and install underground Fuel Storage Tanks, double walled steel, coated with fiberglass reinforced resin.
 - 3. Furnish and install submersible fuel pumps, high capacity, single product fuel dispensers complete with high capacity hoses and automatic nozzles.
 - 4. Furnish and install complete tank leak detection/monitoring and fuel management systems.
 - 5. Furnish and install concrete islands with steel curb form.
 - 6. Furnish and install all necessary piping, valves, conduit, wiring, equipment and materials required for the complete installation, as indicated in the contract specifications and plans, or as otherwise required to meet all applicable local, State and Federal regulations and requirements.
 - 7. Furnish and install pre-fabricated free standing metal canopy complete with structural framing, roof/ceiling and fascia covering, trim, flashings, fasteners, weather sealing materials, gutters and downspouts, lighting and foundation design.

8. Remove and dispose of four (4) Underground Storage Tanks, all associated product and vent piping and post excavation soil testing.
 9. Remove and dispose of existing fueling facility.
 10. Contractor shall complete all miscellaneous site work including but not limited to installation, relocation or replacement of curbing, paving, fences and gates, lighting fixtures and poles, soil erosion and sediment control measures, restoration, clean-up, etc.
 11. Furnish and install chain link cantilever slide gate with automatic gate operators, remote control system including gate, track, rollers, bearings, operators drives, motors and radio control receivers, transmitters and accessories.
 12. All other work of any type or description necessary for the completion of the project, whether or not specifically shown on the plans or specified herein.
- (B) Prior to submitting a proposal, and before starting work, the Contractor shall visit the site and note the conditions under which the work will be performed. Failure to visit the site shall not relieve the contractor of his responsibility to perform his work.
- (C) The entire work covered in these specifications and on contract drawings shall be constructed and finished in every respect in a good, workmanlike, substantial manner. All parts necessary for the proper and complete execution of the work, whether the same have been specifically mentioned or not, or indicated on the drawings, shall be furnished and installed in a manner corresponding with the rest of the work as if the same were particularly described and specifically provided for therein. It is not intended that the drawings shall show every detail, piece of material or equipment; but such parts and pieces as may be necessary to satisfactorily complete any system in accordance with the best practices and regulatory requirements, even though not shown, shall be furnished and installed. All materials and equipment shall be new unless specifically stated otherwise in these contract documents.

1.02 ABBREVIATIONS

The following abbreviations have been used in the specifications:

AASHO	American Associations of State Highway Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AGA	American Gas Association
AGC	Associated General Contractors of America
AGMA	American Gear Manufacturers Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute (synonymous with USASI-ASA)
APA	American Plywood Association
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWG	American (or Brown and Sharpe) Wire Gauge
AWWA	American Water Works Association
AWS	American Welding Society
AWPA	American Wood Preservers Association
BB	Balled and Burlapped
BBP	Balled, Burlapped and Platformed
BR	Bare Root
BOCA	Building Officials and Code Administrators International
BPR	Bureau of Public Roads
B&S	Brown and Sharpe Wire Gauge (or American)
CCIR	International Radio Consultative Committee
CCITT	International Telegraph and Telephone Consultative Committee
CIPRA	Cast Iron Pipe Research Committee
CRSI	Concrete Reinforcing Steel Institute
CSPA	Clay Sewer Pipe Association
DEP	Department of Environmental Protection
EIA	Electronic Industries Association
FCC	Federal Communications Commission
EPA	Environmental Protection Agency
FS	Federal Specifications
IEEE	Institute of Electrical and Electronic Engineers
IPCEA	Insulated Power Cable Engineers Association

SUPPLEMENTARY CONDITIONS

Page 3

NAPCA	National Association of Pipe Coating Applicators
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NESC	National Electric Safety Code
NFPA	National Fire Prevention Association
NJDOT	New Jersey Department of Transportation
OSHA	Occupational Safety and Health Act
OS&Y	Outside Screw and Yoke
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
SAE	Society of Automotive Engineers
SSPC	Steel Structure Painting Council
UBC	Uniform Building Code of the International Conference of Building Officials
UL	Underwriters Laboratories Incorporated
USSW	United States Steel Wire Gauge

1.03 PROJECT ADMINISTRATION

1.03.01 Preconstruction Conference

Before issuance of a "Notice to Proceed" the Engineer, Resident Engineer, Contractor, and Contractor's Superintendent shall attend a Preconstruction Conference. The purpose of the conference will be to establish the administrative procedures that will be followed during the construction period.

The Preconstruction Conference agenda will include, but not be limited to, the following:

1. Designation of Contractor's responsible individuals, addresses, and phone numbers, to be available during non-working hours to handle emergency problems in connection with the project.
2. Disclosure of Contractor's intended suppliers, vendors, fabricators and major subcontractors.
3. Progress photographs.
4. Procedures for processing schedule of shop drawings, shop drawings, and sample submittals.
5. Procedures for the implementation of field orders and change orders.
6. Preliminary cost breakdowns of lump sum and progress payments.
7. Review of initial progress schedule and procedures for finalizing schedule requirements, including updating.
8. Job site coordination between contracts and Board of Education operations.
9. Site security.
10. Housekeeping.
11. Field offices.
12. General testing requirements.
13. Other topics pertinent to the work that may be presented by conference attendees.

At the Preconstruction Conference, the Contractor shall advise the Engineer, through the Resident Engineer, of any conflicts

or ambiguities which the Contractor believes are present in the Contract Documents. The Engineer will determine whether, in fact, a conflict or ambiguity does exist and will establish procedures to resolve such conflict or ambiguity within ten (10) days from the date of the conference and notify the Contractor through the Resident Engineer. Failure of the Contractor to advise the Engineer of any conflict or ambiguity will constitute a waiver by the Contractor for any and all claims for damages which the Contractor may allege as a result of a conflict or ambiguity in the Contract Documents.

1.03.02 Project Meetings

Project meetings shall be scheduled regularly every month for the purpose of discussing the execution of the work. Each Contractor shall have a representative at each project meeting, whether regularly scheduled or not. This representative shall be empowered by each Contractor to make definite and binding decisions regarding all matters pertaining to the work under the Contract, and to make proper and definite reports as to any information normally required of contractors in the progress of the work.

Meetings will be held at the time and place designated by the Resident Engineer. All decisions, instructions, and interpretations given by the Resident Engineer at these meetings shall be binding and conclusive on the Contractor. The proceedings of these meetings will be recorded by the Resident Engineer, and the Contractor will be furnished a reasonable number of copies for his use and for distribution to the various subcontractors, material men and vendors involved.

During the project meetings, the Contractor shall provide updated schedules conforming to Article 1.04.02 of these Supplementary Conditions. As the work progresses, the Contractor's actual progress rate will be compared to the scheduled progress rate. The Contractor shall provide a list of all items which are impacting the completion of the work (i.e. decisions required, approvals required, coordination difficulties, equipment delays, etc.).

If at any time the Contractor's schedule of equipment or his methods of executing the work appear to the Resident Engineer to be inadequate to insure the required quality or rate of progress of the work, the Resident Engineer may order the Contractor to increase or improve his facilities or methods and the Contractor shall promptly comply with such orders, but neither compliance with such order nor failure of the Resident Engineer to issue such orders shall relieve the Contractor from his obligation to secure the quality of the work and the rate of progress required by the Contract Documents.

Review by the Engineer and Resident Engineer of any plan or method of work proposed by the Contractor shall not relieve the Contractor of any responsibility therefore, and such review shall not be considered as an assumption of any risk or liability by the Owner or Engineer or the Resident Engineer, or any officer, agent, or employee thereof. The Contractor shall have no claim on account of the failure or inefficiency of any plan or method so reviewed.

The Resident Engineer may call project meetings in addition to the regularly scheduled meetings at any time if, in the Resident Engineer's judgment, it is required for the proper execution of the work.

1.03.03 Job Site Administration

The Contractor shall cooperate with all other contractors who may be performing work in behalf of the Owner and workmen employed by the Owner on any work in the vicinity of the work to be done under this contract, and he shall so conduct his operations as to interfere to the least possible extent with the work of such contractors or workmen. Any difference or conflict which arise between the Contractor and other contractors, or between the Contractor and workmen of the Owner, in regard to their work, shall be adjusted as determined by the Resident Engineer. The continuous, uninterrupted operation of the Owner's functions shall take precedence.

If the work of the Contractor is delayed because of any acts or omissions of any other contractor or workman of the Owner, the Contractor shall have no claim against the Owner, the Engineer, or the Resident Engineer on that account other than an extension of time.

It is important that all contractors cooperate fully during the installation of their work. All work must be coordinated so that progress is maintained as scheduled. The delivery of equipment and material, including ample labor for unloading and installation, shall be scheduled accordingly.

The Contractor shall examine all drawings and the site for the location of suitable openings and aisles available for the passage of materials and apparatus to be installed.

The Contractor shall have responsibility for having the openings left open until his equipment has been properly installed.

The Contractor shall investigate each space through which equipment must be moved. Where necessary, equipment will be shipped from the manufacturer in crated sections, of a size suitable for moving through the restricted spaces available.

The Contractor shall ascertain from his examination of all the contract drawings, whether any special temporary openings in the building will be required for the admission of apparatus provided under his Contract, and he shall notify the Resident Engineer accordingly.

Whenever there is interference with work under other contracts, the Resident Engineer shall decide the manner in which the work shall proceed under each contract.

1.03.04 Dimensioning Responsibilities

The drawings are made to scale, but all working dimensions shall be taken from the figured dimensions or by actual measurements at the work, and in no case by scaling the prints. The Contractor shall study and compare all drawings and verify all figures before laying out or constructing the work and shall be responsible for any and all errors in the contract work which might have been avoided thereby. Whether or not any error is believed to exist, deviations from the drawings and the dimensions given thereon shall be made only after acceptance in writing is obtained from the Resident Engineer. The Contractor shall take all measurements of existing conditions, notwithstanding the figured dimensions on the drawings. When figured dimensions are not in agreement with the Contractor's measurements, the Resident Engineer shall be notified immediately, and the Resident Engineer will provide clarification.

The Contract Documents are intended to show the general arrangement and the extent of work to be performed. The locations for equipment and material as shown on the drawings are approximately correct, and it shall be understood that they are subject to such modifications or shop drawing layouts as may be found necessary to meet conditions of the work. In all cases, sufficient clearance shall be allowed for repairs, servicing, removal and replacement of parts, headroom, walkways, etc.. Such changes shall be made by the Contractor at no increase in contract price.

1.03.05 Construction Layout

The Engineer will establish a benchmark adjacent to the work. Data to establish a base line will be available from the Engineer through the Resident Engineer.

Based on the information provided by the Engineer, the Contractor shall verify all information, develop and make all detailed surveys necessary for construction, including slope stakes, batter boards, stakes for working points, lines and elevations. The Contractor shall employ a licensed New Jersey surveyor for this work.

The Contractor will be required to furnish all necessary qualified personnel acceptable to the Resident Engineer and adequate equipment to preserve such controls throughout the duration of the contract and to lay out therefrom all of the lines and grades necessary for the complete construction of the project. The Contractor shall make all necessary computations to establish the exact position of all the work from the control points which are shown on the plans or furnished by the Engineer through the Resident Engineer.

The Contractor shall be responsible for the preservation of all control points furnished by the Engineer through the Resident Engineer for his use in staking out the work. If such control points are damaged, lost, displaced or removed, they shall be reset at the Contractor's expense.

The Contractor shall make all measurements and verify all dimensions necessary for the proper construction of the work as called for by the Contract Documents. Any error or apparent discrepancy found in the Contract Documents shall be called to the attention of the Resident Engineer for interpretation prior to proceeding with the work.

1.03.06 Project Correspondence

Any request in writing by the Resident Engineer to the Contractor must be answered in sufficient detail within fourteen (14) calendar days, unless an earlier answer is required by the Resident Engineer to maintain job progress.

1.04 SUBMITTALS

1.04.01 Notice to Proceed

The Owner will submit to the Contractor a written "Notice to Proceed," stating a date on which it is expected that the Contractor will start the work. Contract time shall commence on the date specified in the "Notice to Proceed."

1.04.02 Schedules

At the Preconstruction Conference, or prior thereto, the Contractor shall submit an estimated progress schedule, indicating the starting and completion dates, to the Resident Engineer for review.

The Contractor shall submit to the Resident Engineer such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records, and other data as the Resident Engineer or Owner may request concerning work performed or to be performed under this Contract.

1.04.03 Certificates of Insurance

Within ten (10) days after receipt of notification that the Contract Agreement is ready for signature, the Contractor shall furnish the Owner, the Engineer, and the Resident Engineer with satisfactory proof that he has obtained the insurance described below from insurance companies or underwriters satisfactory to the Owner, the Engineer, and the Resident Engineer, and shall keep such insurance enforced until the Contractor and his subcontractors shall have fully and satisfactorily performed each and every obligation assumed hereunder, including the removal of all tools, equipment, implements, machines, surplus materials, employees, agents, or representatives from the Owner's premises. Such insurance shall include his subcontractor's operations also.

At the time of executing the Contract Agreement, the Contractor shall submit copies in quadruplicate of each of the insurance policies, covering all insurance called for under the contract. All policies shall name the Owner, the Board of Education, the Engineer, and the Resident Engineer as an additional named insured.

All insurance certificates shall stipulate that the insurance will not be changed or cancelled or permitted to expire without giving thirty (30) days prior notice to the Owner by registered mail. The Contractor shall furnish the Owner, Engineer and Resident Engineer with certified certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of the policies. Specific reference to the contract shall be made in all policies.

Compensation Insurance

During the life of this contract, the Contractor shall procure and shall maintain Workers' Compensation Insurance Coverage B, as required by applicable State law for all his employees to be engaged in work at the site of the project under this contract and, in the case of any such work sublet, the Contractor shall require his subcontractors similarly to provide Workers' Compensation insurance for all of the latter's employees to be engaged in such work unless the employees are covered by the protection afforded by the Contractor's Workers' Compensation insurance. The Employer's liability limit shall be \$100,000. In case any class of employee engaged in hazardous work on the project under this contract is not protected under the Workers' Compensation statute, the Contractor shall provide, and shall cause his subcontractors to provide, adequate employer's liability insurance for the protection of such of his and their employees as are not otherwise protected.

Contractor's Public Liability and Property Damage

Insurance

During the life of this Contract, the Contractor shall procure and shall maintain Contractor's Public Liability Insurance and Contractor's Property Damage Insurance, including Independent Contractor's Completed Operations and Contractual Liability Insurance, in the following amounts:

Bodily Injury \$1,000,000/\$3,000,000.

Property Damage \$1,000,000/\$1,000,000.

Policies shall contain a provision or endorsement providing insurance protection against property damage caused by explosion and collapse and against damage to or interference with underground tanks, pipes, cables, conduits, ducts, foundations, and other such facilities.

In addition to the above, the Contractor shall purchase and deliver to the Owner an Owner's Protective Liability Policy with the same limits as above. The named insured shall be The Township of Brick, the Board of Education, the Engineer, and the Resident Engineer.

Contractor's Vehicle Liability Insurance

During the life of the Contract, the Contractor shall procure and shall maintain Vehicle Liability Insurance for owner, non-owned, and hired vehicles in the following amounts:

Bodily Injury \$1,000,000/\$3,000,000.

Property Damage \$1,000,000/\$1,000,000.

Liability insurance shall agree to pay on behalf of the Contractor or his subcontractor, all sums which they shall become legally obligated to pay as damages because of bodily injury, sickness or disease, including death at any time resulting therefrom, sustained by any person, or because of the injury to or destruction of property, including the loss of use thereof, in consequence of occurrences that actually or allegedly arise out of the work required by the contract or any thing incidental thereto.

Builders Risk Insurance

Until the project is completed, the Contractor shall maintain All-Risk Builders Risk Insurance, fire, vandalism, malicious mischief, and extended coverage, on a one-hundred percent (100%) completed value basis on the insurable portion of the project. The Owner, Engineer, and Resident Engineer shall be named as an additional insured on the policy.

1.04.04 Samples

All materials furnished by the Contractor to be incorporated in the work shall be subject to the review and inspection of the Resident Engineer. No material shall be processed or fabricated for or delivered to the work without prior review of the Resident Engineer, except at the risk of the Contractor.

When required by the Contract Documents, the Contractor shall submit samples of materials to the Resident Engineer for transmittal to the Engineer to demonstrate that the materials conform to the Contract Documents. Such samples shall be furnished, taken, stored, packed and shipped as directed, at the expense of the Contractor.

Samples, where called for in the Contract Documents or otherwise required, shall be submitted in triplicate and shall be of sufficient size to show the characteristics of the part or material proposed to be furnished. After the Engineer has approved the samples, one sample will be returned to the Contractor through the Resident Engineer, one retained by the Engineer, and the third returned to the Resident Engineer for comparison with materials actually delivered. The Resident Engineer's sample will be given to the Owner for approval where the specifications require the Owner's approval. If a set of samples is not approved by the Engineer, a new set of samples shall be furnished as required.

All samples shall be packed so as to reach their destination in good condition and shall be so labeled as to indicate the materials represented, the name of the project, the treatment facility or facilities, the location for which the material is intended, the contract and section numbers under which the submittal is made, and the name of the Contractor submitting the sample. To ensure consideration of samples, the Contractor shall notify the Resident Engineer by letter that the samples have been shipped and shall describe the samples in the letter. In no case shall the letter of notification be enclosed with the samples.

The Contractor shall submit data and samples or place his orders to permit consideration, inspection, testing, and review before the materials are necessary for incorporation in the work. Any delay resulting from his failure to do so shall not

be used as the basis of a claim against the Owner, the Engineer, or the Resident Engineer.

After review of the samples or reports, the materials used in the work shall correspond therewith.

1.04.05 Shop Drawings

The Contractor shall submit for the review of the Engineer shop drawings for all prefabricated work and for all manufactured items required to be furnished in the contract as required by the specifications.

When submitted for the Engineer's review, shop drawings shall bear the Contractor's certification that he has reviewed, checked and approved the shop drawings and that they are in conformance with the requirements of the Contract Documents.

By approving and submitting shop drawings, the Contractor represents that he has determined and verified all field measurements and quantities, field construction criteria, materials, catalog numbers and similar data, and that he has reviewed and coordinated the information in the shop drawings with requirements of the work and the Contract Documents.

The Engineer's review of the Contractor's shop drawings shall be considered as a service given as assistance to the Contractor in interpreting the requirements of the contract and in no way shall it relieve the Contractor of any of his responsibilities under the contract. Any fabrication, erection, setting or other work done in advance of the receipt of shop drawings returned by the Engineer and noted as "No Exception Taken" shall be entirely at the Contractor's risk.

The Engineer's review will be confined to general arrangement and compliance with the contract plans and specifications only and will not be for the purpose of checking dimensions, weights, clearances, fittings, tolerances, interferences or coordination of trades. Shop drawings submitted by Subcontractors shall be sent directly to the Contractor for approval. The Contractor shall be responsible for submission to the Owner. The Contractor shall check thoroughly all Subcontractor shop drawings in regard to measurements, sizes of members, materials, and details, to satisfy himself that they conform to the contract plans and specifications. Drawings found to be inaccurate or otherwise in error shall be returned to the Subcontractor by the Contractor for correction before submitting them to the Owner. All details on shop drawings submitted for review shall clearly show the relation of the various parts, and where the work depends upon field measurements, such measurements shall be obtained by the

Contractor and noted on shop drawings before being submitted for review.

Sufficient space on the shop drawings near the title box should be provided for stamps and review comments. The shop drawings shall bear the initials of the detailer's checker prior to submission. All dimensional coordination shall be done by the Contractor.

All submissions shall be properly referenced to indicate clearly the specification section, location, service and function of each particular item. All submissions for one item or group of related items shall be complete. Where manufacturer's publications in the form of catalogs, pamphlets, or other data sheets are submitted in lieu of prepared shop drawings, such submissions shall specifically indicate the item for which review is requested. Identification of items shall be made in ink and submissions showing only general information are not acceptable.

If the shop drawings contain any departures from the contract requirements, specific mention thereof shall be made in the Contractor's letter of transmittal. Where such departures require revisions to layouts or structural changes to the work as shown, the Contractor shall prepare and submit revised layout drawings for review at his own expense. Revision drawings shall include design calculations prepared by a professional engineer. Such drawings shall be the same size as the contract drawings unless specified otherwise.

The Contractor shall coordinate all reviewed equipment shop drawings with shop drawings of related new and altered structures, supports, piping, electrical and mechanical work to insure proper accommodation of the furnished equipment. Shop drawings for structures, supports, piping, electrical and mechanical work, which are contingent upon the specific equipment furnished, shall not be submitted until the equipment shop drawings have received final acceptance.

Six (6) sets of all shop or working drawings shall be submitted, unless otherwise specified, to the Owner by the Contractor. If requested by the Contractor and acceptable to the Owner, initial shop drawings submitted by the Contractor may consist of two (2) copies and a sepia. Only drawings which have been checked and corrected by the material fabricator shall be submitted. The Contractor shall be responsible for the prompt submission of all shop or working drawings, so that there shall be no delay to the work due the absence of such drawings. Shop drawings shall be either 8-1/2 by 11 inches, or 24 by 36 inches.

Two copies of reviewed shop drawings will be returned to the Contractor.

1.04.06 Notarized Certification of Compliance

Before any material is processed, fabricated or delivered to the work, the Contractor shall submit notarized certification of compliance from all material suppliers to the Owner. The Contractor shall submit additional notarized certification whenever the manufacture, supplier, or source of a particular material is changed. The Contractor shall submit to the Owner six (6) sets of sworn copies of manufacturer shop or mill tests, or reports from independent testing laboratories, relative to all material and concrete.

1.04.07 Cost Breakdown for Lump Sum Bids

At the Preconstruction Conference, the Contractor shall submit a complete breakdown of the contract amount, showing the value assigned to each part of the work, including an allowance for profit and overhead. Upon approval of the breakdown of the contract amount by the Engineer, it shall be used as the basis for all requests for payment.

1.04.08 Progress Photographs

The Contractor shall provide color progress photographs taken by an experienced commercial photographer before, during, and after construction. Photographs shall be of standard commercial quality, 3-1/2 x 5 inches in size, on single weight, glossy paper. Typed on the back of each photograph shall be the project name, location of view, date, time, Owner, Engineer, Contractor, Photographer, and negative number. All photographs shall be submitted in duplicate to the Resident Engineer within ten (10) days after taking. Photographs shall be enclosed back-to-back in a double-faced plastic sleeve, punched to fit standard three-ring binders. The Contractor shall supply binders for the photographs submitted. Each binder shall be properly identified by a label on the cover indicating the contract number, description of what the photographs cover, and the Owner.

The Contractor shall maintain negatives for a period of two years subsequent to the contract closeout. At the Preconstruction Conference, the Contractor shall submit a schedule of cost for duplicate prints and enlargements which shall be fixed for the duration of the contract.

Six (6) color progress photographs shall be taken once a week during the progress of the work at the direction of the Resident Engineer.

Special views shall be taken of unusual conditions at the direction of the Resident Engineer in addition to the regular views in order to document the reason for relocation of lines or restoration considerations.

The Resident Engineer may direct additional photographs to be taken if conditions are such that those photographs are not sufficient to show special details and conditions.

Specific attention shall be given to existing curbing, sidewalks, and monuments in the vicinity of the proposed construction in the contract area prior to construction.

Broken or disturbed curbing, sidewalks, and monuments in the vicinity of the work not so recorded by photographs shall be assumed to have been broken or disturbed by the Contractor and shall be replaced at his expense prior to acceptance of the job.

At his discretion, the Resident Engineer may direct the manner, method, and units of materials and construction to be photographed. The Contractor shall notify the Resident Engineer not less than 24 hours in advance before pictures are taken. It is the intent and purpose of the photographs to show the preconstruction conditions, the construction progress, and the completed post-construction view of the entire project. The Resident Engineer will rely on these photographs to evaluate any insurance or restoration claim.

1.04.09 Operations and Maintenance Instructions

The Contractor shall prepare and furnish six (6) copies of manufacturer operations and maintenance instructions which contain complete written installation, operating, adjustment, and lubrication instructions for each piece of equipment furnished under this Contract, within sixty (60) days of acceptance of shop drawings. All drawings, instructions, parts lists, etc. shall be in English.

The operating instructions shall be divided into basic sections. Instructions shall describe all equipment and controls, their purpose, and their operation and use under varying conditions of temperature, weather, etc. and shall include automatic control diagrams, schematic and electrical wiring diagrams, complete numbered parts lists, and the like.

One (1) "mylar" reproducible of all parts drawings larger than 8-1/2 x 11 inches shall be provided of all equipment, including minor parts and subassemblies, in such detail as will permit disassembly of each piece of equipment for maintenance, and shall indicate fabrication and assembly details as required to

permit disassembly and assembly of the equipment, with all parts dimensioned.

Parts lists shall include part name, number of each part required, part or catalog number, manufacturer, supplier, and other data necessary for ordering replacements. Listing numbers shall be according to both supplier and manufacturer.

Instructions and parts lists shall be prepared for the specific equipment furnished and shall not refer to other sizes and types or models of similar equipment.

The Engineer shall be the sole judge of the acceptability and completeness of such manuals and may reject any submittal for the lack of any information which he may deem necessary, and/or for the manner in which the material is assembled or bound.

All operations and maintenance instructions shall be submitted in draft form by the time of application for progress payments equalling fifty percent (50%) of the contract price. Approved final operations and maintenance instructions shall be submitted at the time of application for progress payments equalling seventy-five percent (75%) of the contract price.

Because payments to the Owner by the regulatory agencies may be withheld or delayed for failure to submit operations and maintenance material, any such actions undertaken by them caused by defective submission of operations and maintenance instructions by the Contractor will result in the Owner taking corresponding action against the Contractor.

1.04.10 Operations and Maintenance Binders

Final submission of the operations and maintenance instructions specified in Article 1.04.09 and all instruction manuals specified for equipment under the various sections shall be made in one or more binders. One or more volumes shall be provided as required; separate volumes may be submitted for equipment with voluminous instructions and data sheets, such as instrumentation.

Binders shall be blue and white, with volumes numbered in sequence, and shall include an index and index tabs. A sample of the Owner's existing Operations and Maintenance Manuals will be provided as a sample. Replacing of individual sets of instructions which may be lost or damaged prior to submission in the binders shall be the responsibility of the Contractor. Six (6) copies shall be submitted in binders. For each item larger than 8-1/2 x 11 inches, one (1) "mylar" reproducible shall be provided.

1.04.11 Maintenance Check Lists

Complete maintenance check lists shall be prepared and submitted for use by Owner's personnel in operating all equipment furnished under this Contract.

All normal maintenance such as lubrication, lubricant, level, hydraulic reservoir level, and the like shall be included. Schedules shall be prepared by frequency--each shift, daily, weekly, monthly, etc.--and space shall be provided for initials. These shall be arranged in sequence for a maintenance man making a normal round.

Schedules shall be submitted in a printed 8-1/2 x 11 inch form approved by the Engineer.

SHIFT (DAILY, WEEKLY, ETC.) MAINTENANCE
DESCRIPTION OF EQUIPMENT
DATE _____

Maintenance check lists shall be submitted in duplicate draft form for checking by the Engineer through the Resident Engineer at least eight (8) weeks prior to initial plant operation, and a ninety (90) day supply shall be submitted in final form within thirty (30) days after return of one copy of the draft with the Engineer's notations.

Thereafter, the check lists shall be revised and resubmitted to accord with any changes and procedures or equipment made during the first sixty (60) days of operation and a one year supply shall be furnished.

Any damage from lack of maintenance which occurs prior to receipt by the Owner of the ninety (90) day supply of forms or from lack of maintenance which is not included or is incorrectly included on the check lists shall be made good by the Contractor at no additional cost to the Owner.

1.04.12 Substitutes or "Or Equivalent" Items

This article supplements "INSTRUCTIONS TO BIDDERS," Article 26.

Requests for review of substitute items of material and equipment will not be accepted by the Resident Engineer and Engineer from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall make written application to the Engineer through the Resident Engineer for acceptance thereof, certifying that the proposed substitute will adequately perform the functions and achieve the results called for by the general design, by similar and of equal substance to that specified, and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice

Contractor's achievement of substantial completion on time, whether or not acceptance of the substitute for use in the work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the Owner for work on the project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application, and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish additional data about the proposed substitute, at the Contractor's expense.

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

Engineer will be allowed a reasonable time within which to evaluate each proposed substitute. Engineer will be the sole judge of acceptability and no substitute will be ordered, installed, or utilized without Engineer's prior written acceptance. Owner may require Contractor to furnish a special performance guarantee or other surety with respect to any substitute, at the Contractor's expense.

1.05 TECHNICAL

1.05.01 Equipment Foundations

The Contractor shall furnish and construct suitable concrete foundations for all equipment as required, regardless of whether or not such foundations are indicated on the drawings.

1.05.02 Omitted

1.05.03 Electrical Work Other Than Division 16

Electrical equipment, material and work specified as furnished and installed in Divisions of the Specifications other than

Division 16 shall be performed in conformance with all requirements of Division 16 of the Specifications unless otherwise specified.

The work so specified shall include design, preparation, and furnishing of shop drawings, furnishing of all labor and material, including equipment, conduit, wire, control stations and all required appurtenances for complete operating systems.

The power feeders to these systems will be furnished by the Contractor under Division 16. The Contractor shall refer to Article 1.04, entitled "Submittals" in the General Requirements and to Division 16 for the requirements for submitting shop and conduit layout drawings and wiring and schematic diagrams for acceptance.

All shop drawing submissions shall be accompanied by a typewritten step-by-step description of the control schematic operation. Electrical schematics shall conform to JIC and/or ISA requirements as applicable. Shop drawings shall be submitted for all systems and shall include, but not be limited to, the following:

1. Motor Control Centers
2. Transformers where required
3. Control Stations
4. Special Panels
5. Disconnect Switches
6. Contactors and Starters
7. Instruments and Instrument Panels
8. Motor Controllers

1.05.04 Panels

All panels shall be furnished and installed as indicated in the Specifications and on the Contract Drawings. All panels located within three feet of walls shall be accessible from the front with each cubicle having its own individual hinged door. The panels shall house control circuitry and devices necessary to interface, if required, with the final control elements, instrumentation, local and central control panels and computer unless otherwise specified. Panels shall be pre-wired at the factory.

Electrical one-line diagrams and electrical schematic diagrams shall be included in the Contractor's scope of work insofar as electrical devices required on the panels are shown thereon, in addition to those indicated on the process flow diagrams or required by the Specifications.

1.05.05 Concrete and Masonry Inserts and Openings

The Contractor shall be responsible for furnishing all inserts required for the work in concrete and masonry.

In concrete, the Contractor shall be responsible for installing inserts in the form work required. All openings in concrete work shall be formed by the Contractor.

In existing brick and block masonry, for openings three (3) inches and less, the Contractor shall core-drill an opening, set a sleeve in place, and patch. In new construction, for openings greater than three (3) inches, the Contractor shall install the insert during the masonry construction.

The Contractor shall install all inserts for structural steel furnished, in accordance with the requirements of Division 5.

The Contractor shall keep all his subcontractors on the work informed concerning his proposed schedule of work so that they will be able to furnish or furnish and set their anchor bolts, sleeves, well castings, inserts, etc., in the work in ample time to prevent delays. The Contractor shall be responsible for the accurate location, and for the proper size and shape of all such materials built in and for all openings as required.

The Contractor shall check with all subcontractors to assure that all inserts and openings meet the requirements of the Contract Documents before the concrete is placed.

Sleeves shall be placed in concrete for passage through an interior wall or floor and the space around it shall be tightly caulked. Conduit or piping through exterior walls below grade shall be fully watertight.

Electric conduits and other pipes whose embedment is allowed, with their fittings shall not displace more than four percent (4%) of the area of the cross-section of a column of which stress is calculated or which is required for fire protection. Sleeves, conduits, or other pipes passing through floors, walls, or beams shall be of such size and in such location as not to impair significantly the strength of the construction. Such sleeves, conduits, or pipes may be considered as replacing structurally in compression the displaced concrete, provided they are not exposed to rusting or other deterioration, are of uncoated or galvanized iron or steel not thinner than standard Schedule 40 steel pipe, have a nominal inside diameter not over two (2) inches and are spaced not less than three (3) diameters on centers. Except when plans of conduits and pipes are reviewed by the Resident Engineer, embedded pipes or conduits, other than those merely passing through, shall be not larger in outside dimension than one-third (1/3) the thickness of the slab, wall, or beam in which they are embedded nor shall they be spaced closer than three (3) diameters or widths on center,

nor so located as to impair significantly the strength of the construction. Sleeves, pipes, or conduits of any material not harmful to concrete and within the limitations of this section may be embedded in the concrete with the acceptance of the Resident Engineer, provided they are not considered to replace the displaced concrete.

Sleeves or pipes of aluminum shall not be embedded in structural concrete unless effectively coated or covered to prevent aluminum-concrete reaction or electrolytic action between aluminum and steel.

The Contractor shall not endanger any work of any other contractors by cutting, excavating, or otherwise altering any work and shall not cut or alter the work of any other contractor except with the written consent of the Engineer.

1.05.06 Omitted

1.05.07 Welding

All shop welding and field welding shall be shielded arch welding and shall conform to the standards of the American Welding Society for gas-tight welding. Field welding shall also be in full conformance with the requirements of the manufacturer of the materials requiring welding.

Field welding shall be allowed only where permitted by the Resident Engineer and shall be performed in accordance with the provisions of Section 5 of the Standard Code for Arc and Gas Welding in Building Construction of the American Welding Society.

Welding shall be performed by operators qualified in accordance with the American Welding Society "Standard Qualification Procedure" to perform the type of work required. Such qualification test shall have been passed within the preceding twelve month period.

Shop drawings shall indicate the size, length, spacing and type of all welds.

1.05.08 Bolts, Anchor Bolts, Washers and Nuts

It is the responsibility of the Contractor to obtain certified prints for placing anchorage from all manufacturers and to insure that the reinforcement will not interfere with said anchorage to be set after the concrete has been placed.

Anchor, expansion, stud, tap and machine bolts, fasteners, nuts and washers, shall be Type 304 stainless steel except as shown otherwise in the Contract Documents. They shall be of ample

size and strength for the purpose intended. All threads shall be clean cut and of U.S. standard sizes.

Anchor bolts and expansion bolts shall be accurately set. If anchor bolts are set before the concrete has been placed, they shall be carefully held in suitable templates of accepted design. If anchor or expansion bolts are set after the concrete has been placed, all necessary drilling and grouting shall be done at the Contractor's expense.

1.05.09 Lifting Lugs

Lifting lugs shall be cast or welded to all equipment for which it is feasible and necessary for installation or maintenance. Lugs shall be sufficient in number to stabilize the load, shall be located to prevent excessive rotation of the equipment, and shall be capable of lifting twice the equipment load at design stresses.

The gross weight of all equipment must be clearly stated on the equipment.

1.05.10 Standardization of Grease Fittings

The Contractor shall ensure that all grease fittings on each piece of equipment are standardized so that only the "Zirk" buttonhead type of fitting is utilized. Fittings shall be standard, or giant size, according to the type of service performed.

Grease fittings shall be made easily accessible. All grease lubrication points shall be provided with extension tubes to bring the fitting to a location where it will be readily accessible from the floor.

1.05.11 Grease and Oil (including Reservoirs)

The Contractor shall furnish a complete manufacturer's oiling and greasing chart. All equipment shall be completely and properly lubricated prior to start-up and testing and relubricated, if necessary, prior to final acceptance.

1.05.12 Spare Parts, Special Tools and Supplies

The Contractor shall furnish all spare parts, special tools and supplies as recommended by the manufacturer for the proper operation and maintenance of each type of equipment furnished.

All manufacturers shall be capable of furnishing additional spare parts, special tools, or supplies within two (2) weeks of a request from the Owner.

These items shall be fully consistent with the operations and maintenance manual supplied with each type of equipment and described elsewhere. All items shall be carefully boxed and labeled.

1.06 TEMPORARY FACILITIES

1.06.01 Utilities

The Contractor's attention is directed to the fact that the appropriate locations of known utility structures and facilities that may be encountered within and adjacent to the limits of the work are shown on the plans. The accuracy and completeness of this information is not guaranteed by the Owner, and the Bidder is advised to ascertain for himself all the facts concerning the location of these utilities.

The corporations, companies, agencies, or municipalities owning or controlling the utilities are listed below:

Electric

Jersey Central Power and Light Co.
ATTN: Jean Hessel
501 Grand Avenue
Asbury Park, NJ 07712

Gas

New Jersey Natural Gas Co.
ATTN: Holly Schultz
1415 Wykoff Road
Wall, NJ 07719
Phone: (908) 938-1169

Telephone

New Jersey Bell Telephone Co.
ATTN: Tom Brandt
980 Hooper Avenue
Toms River, NJ 08753
Phone: (908) 244-9938

Sprint International
ATTN: Drick Irving
100 Camp Drive
Sea Girt, NJ 08750
Phone: (908) 974-9080

Water and Sewer

Brick Township Municipal Utilities Authority
ATTN: Tariq Siddiqui
1551 Highway 88 West
Brick, NJ 08724
Phone: (908) 458-7000

CATV

Storer Cable
ATTN: Randy Adams
751 Brick Blvd.
Brick, NJ 08723
Phone: (908) 920-6010

The Contractor shall permit the owners of the utilities or their agents access to the site of the work at all times in order to relocate or protect their facilities and he shall cooperate with them in performing this work.

The Contractor shall cooperate with the utility owners concerned and shall notify them not less than ten (10) days in advance of the time he proposes to perform any work that will endanger or affect their facilities.

1.06.02 Traffic Control - State, County and Municipal Roads

The requirements of the agency having jurisdiction over the road in which the Contractor is working shall govern.

The Contractor shall maintain traffic and protect the public from damage to persons and property within the limits of and for the duration of the contract. Traffic shall be maintained over a reasonably smooth traveled way which shall be so marked by signs, delineation or other methods that a person who has no knowledge of conditions can safely, and with a minimum of discomfort and inconvenience, ride, drive, or work over all or any portion of the contract under construction where traffic is to be maintained. The Contractor is placed on notice that the maintenance and protection of traffic during construction is considered as important and necessary an item of work as is the actual construction itself. The Contractor at all times shall conduct his operations in a manner to protect the safety of not only the motorist but also the pedestrian and his own employees.

The Contractor shall provide access for emergency vehicles at all times on all roads in which he is working.

Except as necessary during actual working hours, and then only with the specific acceptance of the Resident Engineer, the Contractor shall not occupy with his equipment, materials or personnel, any roadway or sidewalk area within or adjacent to the project that is open to traffic.

The Contractor shall provide means of access for pedestrian and vehicular traffic at all private roadways and occupied buildings affected by the work of this contract. During construction in the vicinity of a driveway, the access width at

the driveway shall be plainly marked by lights, torches and such other devices as meet the acceptance of the Resident Engineer. The Contractor shall notify the owners of the adjoining properties at least twenty-four hours prior to the time he proposes to begin any work which will interfere with their normal passage.

The Contractor shall erect and maintain in good condition, barricades, warning signs, flares, yellow traffic flasher units, rubber traffic cones, and other warning and danger signals and devices, appropriate and adequate for the specific needs at work sites, closed roads, intersections, locations of material storage, standing equipment and other obstructions, at points where the usable traffic width of the road is reduced at points where traffic is deflected from its normal courses or lanes, and other places of danger to vehicular or pedestrian traffic or to completed work.

All traffic control devices as specified above shall conform to the requirements of the New Jersey State Department of Transportation.

Any damage to newly-constructed or existing pavements caused by the Contractor's operations shall be repaired by the Contractor where and as directed by the Resident Engineer at the Contractor's expense, or the repairs will be made by others and the cost of such repairs will be charged against the Contractor.

The Contractor shall provide for the prompt removal from existing roadways of all dirt and other materials that have been spilled, washed, tracked, or otherwise deposited thereon by his hauling and other operations whenever the accumulation is sufficient to cause the formation of mud, interfere with drainage, damage pavements or create a traffic hazard.

1.07 PRODUCTS

1.07.01 Transportation

The Contractor shall coordinate with his suppliers to insure timely deliveries so as not to delay construction.

1.07.02 Handling

The Contractor shall take whatever measures are necessary to provide for the adequate handling of the equipment and material.

1.07.03 Storage

The Contractor will be permitted to use available land belonging to the Owner for the storage of materials and equipment. These sites are shown on the Contract Drawings. All properties of the Owner used by the Contractor for storage, trailers, etc., which are improved with lawns, a sprinkler system, etc. must be restored upon completion of the contract to a condition satisfactory to the Owner.

The Contractor shall be solely responsible for obtaining any additional work areas, storage sites, access to the site, or temporary rights-of-way which may be required for proper completion of the work.

No materials or equipment may be placed upon the property of the Owner until the Owner has agreed to the location contemplated by the Contractor to be used for storage.

The Contractor shall be responsible for the storage of all spare parts, tools, maintenance items, laboratory equipment and other non-installed equipment until final acceptance of the contract work has been given.

All excavated materials, construction equipment and materials to be incorporated in the new work shall be so placed as not to injure the work, and so placed that free access may be had at any time to all parts of the work, and to all public utility installations in the vicinity of the work. Materials shall be kept neatly piled and compactly and conveniently stored, so as to inconvenience public travel as little as possible. Caution should be used in storing equipment and materials in or on structures, slabs, etc., so as not to exceed the carrying capacity of such structures, etc., or portions thereof. Concentrating equipment or materials loads in one location, in such structures, etc., is not permitted.

1.07.04 Protection

It shall be understood that the responsibility for protection and safekeeping of materials and equipment on or near the site will be entirely that of the Contractor and that no claim shall be made against the Owner by reasons of any act of an employee or trespasser. Should the occasion arise necessitating access to a site where material and equipment are stored for the operations requirements of the Owner, the Contractor owning such material and equipment shall move same at no cost to the Owner.

The Contractor shall be responsible for the maintenance of all equipment and systems installed, until final acceptance by the Owner and shall take such measures to insure adequate protection of all equipment and materials during delivery, storage, installation and shutdown conditions.

Materials and equipment which are to become the property of the Owner shall be so stored as to facilitate prompt inspection and ensure preservation of their quality and fitness for use in the construction, including proper protection against damage by freezing and wet weather. All such material and equipment shall be stored under cover on wooden platforms or other hard, clean surfaces, above ground, as may be required.

**** END OF PAGE ****

1.08 PROJECT CLOSEOUT

1.08.01 Record Drawings

The Owner shall provide the Contractor with one set of Contract Drawings in non-reproducible blue and white prints, and one set of mylars for the purpose of recording record conditions.

It shall be the responsibility of the Contractor to mark each sheet of the non-reproducible drawings in red pencil and to record thereon in a neat and current form any and all accepted field changes and conditions as they may occur. A complete file of accepted field sketches, diagrams, and other changes, as may become necessary during the progress of the work, shall also be maintained and attached to the set of Contract Drawings. At completion of the work, each sheet of prints, plus all accepted field sketches and diagrams shall be submitted to the Resident Engineer.

Upon acceptance of the print drawings by the Resident Engineer, the Contractor shall have recorded all field changes and conditions on the reproducible mylars using a chemical eradicator as required. Each sheet shall be signed by the Contractor and certified by a Professional Engineer or land surveyor certifying that the information reflects actual as-built conditions, and shall submit the non-reproducible blue and white prints and mylar set to the Resident Engineer.

1.08.02 Final Cleaning Up

Before final contract acceptance by the Owner, the Contractor shall remove from the site all equipment, temporary work, unused and useless materials, rubbish and temporary buildings, shall repair or replace in an acceptable manner fences or other private or public property which may have been damaged or destroyed on account of the prosecution of the work, shall fill all depressions and water pockets on public and private property caused by his operations, shall clean all drains and ditches within and adjacent to the site which have been obstructed by his operations, and shall leave the site and adjacent public and private property in a neat and presentable condition wherever his operations have disturbed conditions existing at the time of starting work. The Contractor shall procure and submit to the Owner signed statements from property owners affected that he has fulfilled his obligation in the matters enumerated above with regard to their respective properties.

If a dispute arises between any Contractor and others as to their responsibility for cleaning up, the Resident Engineer shall determine who shall be responsible.

If any Contractor fails to clean up, the Resident Engineer may have the cleaning done independently with the cost of same to be borne by that Contractor.

1.08.03 Final Inspection

Prior to making the final payment, and at a time mutually agreeable to the Owner, the Engineer, the Resident Engineer, and the Contractor, they will make a final inspection of the work.

All deficiencies noted by the Owner at the time of this inspection shall be corrected by the Contractor before the Owner will authorize final payment.

1.08.04 Startup

The Contractor shall assume the final responsibility for starting up and placing in operation, acceptable to the Resident Engineer, all equipment that the Contractor has installed.

The Contractor shall be responsible, once all individual equipment items or systems have been accepted, for placing all process units in operation to insure a fully-integrated process.

1.09 LABORATORY TESTING

1.09.01 Services of Testing Laboratory

The Owner may retain and, except as otherwise specified, pay for the services of an independent testing laboratory to do such sampling and to make such tests as the Owner or Resident Engineer may deem necessary to verify that the material and equipment proposed for or incorporated into the work conform to the requirements of the Specifications.

1.09.02 Inspection, Approval

Facilities and labor for the handling and inspection of all materials shall be furnished by the Contractor. Defective materials shall be removed immediately from the site of the work.

The Contractor shall not cover or hide from view pipe, conduit, fittings, pull boxes, ductwork or other work of any kind before it has been tested and examined by the Resident Engineer and by any other authorities having jurisdiction.

DIVISION 2

SITE WORK

INDEX

<u>SECTION NUMBER</u>	<u>TITLE</u>	<u>PAGE NUMBER</u>
2.01	BORINGS	1
2.02	OMITTED	1
2.03	TRENCHING, EXCAVATION, BACKFILLING AND GRADING	1
2.03.01	Scope of Work	1
2.03.02	Reference Specifications	2
2.03.03	Materials - Backfill	2
2.03.04	Unauthorized Excavation	3
2.03.05	Drainage	4
2.03.06	Dewatering	4
2.03.07	Disposal and Stockpile of Material	4
2.03.08	Test Pits for Buried Utilities and Structures	5
2.03.09	Excavation	5
2.03.10	Trench Excavation	6
2.03.11	Sheeting, Shoring and Bracing	7
2.03.12	Backfill in Trench	8
2.03.13	Protection of Existing Structures and Utilities	9
2.03.14	Relocation and Replacement of Existing Structures and Utilities	10
2.03.15	Backfill and Bedding Material Around Underground Fuel Storage Tanks	10
2.04	EROSION CONTROL	11
2.04.01	Scope of Work	11
2.04.02	Materials	11
2.04.03	Methods of Construction	11
2.05	OMITTED	12
2.06	OMITTED	12
2.07	OMITTED	12
2.08	PAVING	12
2.08.01	Scope of Work	12
2.08.02	Paving Materials	12

<u>SECTION NUMBER</u>	<u>TITLE</u>	<u>PAGE NUMBER</u>
2.09	OMITTED	13
2.10	FENCES AND GATES	14
2.10.01	Scope of Work	14
2.10.02	Materials	14
2.10.03	Methods of Construction	15
2.11	OMITTED	16

DIVISION 2

SITE WORK

2.01 BORINGS

Borings have been made at the site for the Owner. The boring logs, records made during the boring operations, results of soil tests conducted, and a report on the results of the subsurface investigation, including interpretations of the probable soil conditions likely to be encountered, are not necessarily the actual conditions between borings. These records are available for examination by prospective bidders at the office of the Owner. However, in transmitting information regarding the material expected to be encountered, the Owner does not guarantee or warranty the accuracy and completeness of the data given, and it assumes no responsibility therefor. The contractor shall make his own interpretation and draw his own conclusions from whatever information is available to the Owner.

The contractor is warned that variations in subsurface soil conditions from those shown in the soil borings are to be expected. The contractor shall make his own evaluation of the risks involved with these likely variations and the influence of the variations on the cost of the work and shall reflect these variables in the bid price.

The contractor agrees that he will make no claims against the Authority if, in carrying out the project, he finds that the actual conditions encountered do not conform to those indicated by said borings, test excavations, or other subsurface investigations.

2.02 OMITTED

2.03 TRENCHING, EXCAVATION, BACKFILLING AND GRADING

2.03.01 Scope of Work

This section covers excavation work and shall include the necessary excavation as required; protection of property, structures and utilities; trench wall support; drainage; dewatering; disposal and stock pile of material; test pits; backfilling; grading; and other appurtenant work.

Earthwork within the rights-of-way of the agency having jurisdiction shall be done in accordance with requirements and provisions of the permits issued by the agencies for the construction within their respective rights-of-way. Such requirements and provisions, where applicable, shall take

precedence and supersede the provisions of the specifications.

2.03.02 Reference Specifications

New Jersey Construction Safety Codes.

Rules and Regulations issued pursuant to the Williams-Steiger Occupational Safety and Health Act of 1970.

New Jersey State Highway Department Standard Specifications for Road and Bridge Construction.

Soil Erosion and Sediment Control in New Jersey, June 14, 1972.

Temporary Erosion and Pollution Control Measures prepared by Federal Highway Administration, February 1972.

Environmental Guidelines for Planning, Design, and Construction of Interceptor Sewers prepared by the New Jersey State Department of Environmental Protection.

2.03.03 Materials - Backfill

It is the intention of this specification that in construction of the structure and appurtenant utilities, previously excavated materials, where deemed satisfactory by the Resident Engineer, shall be reused as backfill.

Where, in the opinion of the Resident Engineer, excavated material is unsuitable for backfill, it shall be removed from the site and not reused in the excavated trenches or around structures. Backfill material to be used when previously excavated material is considered unsuitable by the Resident Engineer shall be of two categories, defined as follows:

1. "Select Backfill - Type 1"

"Select Backfill - Type 1" shall be used when the material below the bottom of the bedding is considered unsuitable as foundation material as determined by the Resident Engineer. The backfill material shall be at the discretion of the Resident Engineer and will depend on the specific soil conditions encountered. This material will be of two types, the first of which shall be a sand conforming to the State Department of Transportation Requirements for Type I-5 Soil Aggregate, and the second is crushed stone conforming to the State Department of Transportation Requirements

for No. 57 coarse aggregate. Type I-5 Soil Aggregate shall be obtained offsite by the contractor or from previously excavated stockpiled material that conforms to the soil aggregate sieve size requirements and which is approved by the Resident Engineer.

2. "Suitable Backfill" shall be used where the material previously excavated is not deemed suitable for backfill by the Resident Engineer, and shall be used within the limits indicated on the drawings. "Suitable backfill" shall be either previously excavated excess material which has been stockpiled and is free from refuse, broken road pavement, moist still clay organic material, or other materials considered deleterious by the Resident Engineer or bank-run sand. "Suitable backfill" shall not have fines in excess of ten percent passing a 200 sieve or have coarse gravels larger than 1-1/2"

2.03.04 Unauthorized Excavation

Where the contractor inadvertently overexcavates below the pipe bedding or structure crushed stone foundation course, in order to reestablish adequate soil bearing capacity, he shall be required to conform to the following requirements at no expense to the Owner.

A. Fiberglass Piping

There shall be a minimum of 6" of clean 1/8" to 5/8" pea gravel bedding under the pipe. Overdepth excavation from 4" to 12" below the bottom of the pea gravel shall be rectified by backfilling with "suitable backfill" compacted to a minimum of 90% Standard Proctor Density. For any area inadvertently overexcavated beyond 12" below the bottom of the pipe, the contractor shall place crushed stone (choked).

B. Fuel Tanks

Overdepth excavation below the 12" crushed stone (choked) foundation course shall be rectified by backfilling with additional crushed stone (choked).

When the contractor inadvertently overexcavates to a greater width than specified, he shall be required to conform to the following requirements at no expense to the Owner.

A. Fiberglass Reinforced Pipe

The contractor shall be required to excavate the trench to a minimum width of six pipe inside diameters centered over the pipe. "Pea Gravel" shall then be placed and compacted in courses.

B. Fuel Tanks

The contractor shall provide additional "suitable backfill" from the pea gravel limit to the excavation walls and compact to a minimum of 90% Standard Proctor Density. (See Section 2.03.15)

2.03.05 Drainage

The contractor shall control grading in a manner to prevent water running into excavations. Obstruction of surface drainage will not be permitted and means shall be provided whereby storm water can flow uninterruptedly in existing gutters, other surface drains, or temporary drains. Material for backfill or for protection of excavation in public roads from surface drainage shall be neatly placed and kept shaped so as to cause the least possible interference with public travel. Free access must be provided to all fire hydrants, water gate valves, meters, and private drives.

At all times during the construction, the contractor shall provide and maintain ample means and devices with which to promptly remove and properly dispose of all water from any source entering the excavations or other parts of the work.

2.03.06 Dewatering

Dewatering shall be accomplished by methods which shall insure that the ground water will be drawn down to an elevation two (2) feet below the bottom of the bedding. Upon removal of well points, deep wells or other dewatering equipment, the contractor shall backfill, compact, and pave (in roads) all holes. Well point and deep well holes shall be compacted for the full depth to a density equal to in-situ soils.

Dewatering for the structures and pipelines shall commence when ground water is first encountered and shall be continued until such time as backfill has been completed and for a minimum of two full working days.

2.03.07 Disposal and Stockpile of Material

All materials collected as a result of trench excavation operations that are not suitable for reuse shall be disposed of off the site. When the contractor selects a spoil area,

he shall submit the sites he plans to use for disposal of all excess excavated material to the Engineer for review. The sites shall not be located in areas that the state or any local government has designated to be critical to the environment, as mentioned in the Environmental Guidelines of the Department of Environmental Protection and the State Wetlands Act.

Material shall not be deposited on private property unless written permission from the owner thereof and acceptance of the Resident Engineer is secured by the contractor. Before the Owner will accept the work as being completed, the contractor shall file a written release signed by all property owners with whom he has entered into agreements for disposal of excess material absolving the Owner from any liability connected therewith.

Excavated material suitable for backfill may be stockpiled on the site, provided that state and federal health and safety regulations are met. In no case shall material be stockpiled in such a manner as to endanger the trenches, structures, or the environmental quality of the area. When stockpiled materials interfere with natural drainage, the contractor shall employ whatever procedures are necessary to permit surface and subsurface flow, at his own expense. Routes of access to all facilities adjacent to the project site shall be kept open at all times. The stockpiling shall be done in accordance with the erosion control portion of these specifications, Section 2.04.

2.03.08 Test Pits for Buried Utilities and Structures

The general location of buried utilities and structures has been indicated on the plans from the best information available. The location of the utilities does not imply a guarantee of their accuracy or completeness.

It is the contractor's responsibility to accurately locate all utilities, structures and appurtenances in the field by digging test pits. The contractor shall also make all arrangements and liaisons necessary with the utility companies concerned to mark their lines, structures, and appurtenances by coded symbols on the pavement or marked stakes. All of the above shall be done well in advance of any construction.

2.03.09 Excavation

Excavation shall include the removal of all material of whatever nature necessary for the construction of structures, foundations and trenches in accordance with the plans and specifications. It shall include the furnishing

of all labor, materials, tools and equipment required, including the installation and subsequent removal of all shoring, sheeting, and bracing.

The excavation shall be shored, braced, supported or sheeted as conditions may warrant. The contractor shall, at his own expense, support and protect all existing property, pavement, sidewalk, curbs, pipes, poles, utilities and structures of any kind that are in the vicinity of the excavation. The contractor shall also, at his own expense, support and protect all utilities, house laterals and drains that cross the trench. If the contractor elects to remove, replace or relocate any of the above poles, utilities, or structures, he shall be responsible to make all arrangements and obtain all necessary permits and approvals from the Owner and the Resident Engineer. The contractor shall be responsible to restore any damaged or displaced property to the pre-existing condition, all with the full knowledge and approval of the owners of the property. This applies equally to all above and below ground properties, utilities, structures and appurtenances involved. Where the damaged item involves public health and safety, it must be repaired within 24 hours, or the Owner may have the repairs made at the expense of the contractor. The contractor shall be responsible to repair all other items expeditiously. Until such time that the repair is performed and approval is received from the Owner, twice the amount of the Engineer's estimate of the cost for the repair will be withheld from the contractor's progress payment.

The contractor shall submit complete sheeting and shoring sketches and calculations prepared by a New Jersey Registered Professional Engineer for the Engineer's acceptance. Acceptance shall in no way relieve the contractor of his responsibilities for providing safe and sufficient systems.

In order to avoid disturbance of the supporting soil, the excavation shall be thoroughly dewatered and the last two (2) feet of the excavation shall be made with light equipment.

2.03.10 Trench Excavation

Trench excavations shall be shored, braced and sheathed as field conditions warrant. If close to existing pipes or structures of any kind, the excavation shall be secured by sheet piling or otherwise so that such facilities and structures will be adequately protected. Suitable trench crossings shall be provided and maintained where necessary.

If the material at or below the depth to which excavation for pipes would normally be carried is unsuitable for

foundations in the opinion of the Resident Engineer, it shall be removed to such width and depths as directed by the Resident Engineer and replace with material acceptable to the Resident Engineer.

If the subgrade is disturbed, the contractor, at the direction of the engineer, shall over-excavate 18 inches below the foundation level and backfill with clean washed stone. This will be considered as extra work.

2.03.11 Sheeting, Shoring and Bracing

This section covers the use of sheeting, shoring and bracing for the protection of trench and structure excavation, existing structure excavation, existing structures and utilities.

Steel sheet piling shall conform to the requirements of ASTM A328.

Piling shall conform to the requirements of AASHTO M168.

Timber preservatives and treatment shall conform to the requirements of ASTM D390 and D2768 respectively.

Excavation for structures and trenches shall be sheeted, braced, and shored as necessary to prevent caving or sliding to provide protection for existing structures and facilities. Sheeting, shoring, and bracing shall be designed and built to withstand all loads that might be caused by earth movement or pressure, and shall be rigid, maintaining shape and position under all circumstances.

When required, the contractor shall provide sheet piling adequately braced with struts and walers to the extent necessary to prevent any movement of the piling due to material adjacent thereto. It shall be the responsibility of the contractor to drive the piling so that sufficient penetration is obtained to accomplish the work to be done in a satisfactory manner. Complete details as to the type and length of piling the contractor intends to use, together with complete details of the method and manner of bracing, shall be submitted to the Resident Engineer for review. No sheet piling shall be driven until the Resident Engineer's review of the information and details submitted by the contractor has been completed and the contractor notified thereof by the Resident Engineer.

If the Resident Engineer is of the opinion that sufficient or proper supports have not been provided, he may order additional supports put in at the expense of the contractor, and compliance with such order shall not relieve or release

the contractor from his responsibility for the sufficiency of such supports. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled with sand and rammed. Bracing shall be so arranged that no stresses of any kind will be placed on completed work until the finished work has developed sufficient strength as determined by the Resident Engineer.

The contractor shall leave in place to be embedded in the backfill all sheeting and bracing which the Resident Engineer may direct him in writing to leave in place at any time during the progress of the work for the purpose of preventing injury to structures, utilities, or property, whether public or private. Only such ordered sheeting and bracing left in place shall be paid for as extra work.

All sheeting and bracing not left in place shall be carefully removed in such manner as not to endanger the construction of other structures, utilities, or property. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted for that purpose.

The right of the Resident Engineer to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such order, and his failure to exercise his right to do so shall not relieve the contractor from liability for damages to persons or property occurring from negligence or a failure on the part of the contractor to install or leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.

2.03.12 Backfill in Trench

As soon as practicable after the pipe has been placed and the pipe joints properly made, and the pipe has been successfully tested, the backfilling shall begin and shall continue without delay, in conformance with the other appropriate sections of the specifications.

Backfilling shall proceed as promptly as is consistent with non-injury to the pipe or structures. Where the trench is in a paved area or an area to be paved, or in an unpaved vehicular or pedestrian-travelled way, or the shoulder of a paved roadway, the final twenty-four (24) inches of trench backfill shall be compacted to a minimum of 95% Standard Proctor Density.

Care shall be taken in the use of mechanical tampers not to injure or move the pipe or to cause the pipe to be supported unevenly.

Trenches shall be backfilled at the end of each work day, except when the conditions stipulated in Section 1.06.02 are followed to the satisfaction of the Resident Engineer. The pipe shall be bulkheaded to prevent damage to the end and entry of backfill material into the line.

The area within the trench above the bedding to 24" below the roadway schedule restoration shall be backfilled utilizing a backfill procedure with compactive effort to achieve a minimum of 90% Standard Proctor Density. Even though testing may indicate that the required density has been attained, the contractor shall remain responsible for correcting any settlement or damage to utilities throughout the guarantee period as defined in Section 9.3 of the General Conditions.

Any compaction procedures will be considered by the Resident Engineer, but acceptance will not relieve the contractor of his responsibility for maintenance and protection of utilities and preservation of final lines and grades of easements and roadways throughout the guarantee period.

The contractor shall backfill the pipe trench in twelve inch layers to the same lift level as the bottom of any partially or totally exposed utility line that is within or adjacent to the trenching operation. Thereupon, the contractor shall compact the material beneath and around the utility to achieve a bedding condition at least equivalent to the in-situ condition.

Large masses of backfilling material shall not be dropped into the trench in such manner as to endanger the pipe.

Frozen material shall not be placed in the backfill, nor shall backfill be placed upon frozen material. Previously-frozen material shall be removed before backfill is placed.

No compacting shall be done when the material is too wet to be compacted properly. At such times, the work shall be suspended until previously-placed and new materials have dried out sufficiently to permit proper compaction, or such other precautions shall be taken as may be necessary to obtain proper compaction.

2.03.13 Protection of Existing Structures and Utilities

All existing pipes, poles, wires, fences, curbing, property-line markers, and other structures within or near the property limits which, in the opinion of the Resident Engineer, must be preserved in place without being

temporarily or permanently relocated, shall be carefully supported and protected from injury by the contractor.

In case of injury or damage, the contractor shall notify the appropriate party so that proper steps may be taken to repair any and all damage done. When the owners do not wish to make the repairs themselves, all damage shall be repaired by the contractor. If not promptly done by the contractor, the Resident Engineer may have the repairs made at the expense of the contractor.

All utility services and structures shall be supported by suitable means so that the services shall not fail when tamping and settling occur.

The contractor shall not be compensated for any additional work involved if the utility or underground structure crosses the trench line transversely above or below the pipe line.

2.03.14 Relocation and Replacement of Existing Structures and Utilities.

Whenever the contractor encounters certain existing utilities and structures which are not indicated on the drawings or otherwise provided for, and encroach upon or are encountered near and substantially parallel to the edge of the excavation, or will impede progress to such an extent that satisfactory construction cannot proceed in the opinion of the Resident Engineer, then the Resident Engineer will direct the contractor in writing to change the location of, remove and later restore, or replace such utility or structure as extra work.

2.03.15 Backfill and Bedding Material Around Underground Fuel Storage Tanks

Underground storage tanks shall be installed using pea gravel, which shall be clean and well-graded pea gravel (rounded particles) with a minimum diameter of 1/8" and maximum diameter of 5/8". No more than 3% passing a #8 sieve will be acceptable. Dry density shall be a minimum of 95 lbs. per cubic foot.

The excavation size shall be sufficient to allow the pea gravel to be backfilled around the tank bottom, sides and top. A minimum space of twenty-four inches (24") beyond the sides (perimeter) shall be backfilled with pea gravel.

If sheeting is not used to control the limits of excavation (open cut), it will be necessary to construct a temporary

plywood form around the perimeter of the tanks to separate the backfill materials.

The pea gravel shall be tamped in 4 inch layers to permit thorough compaction under and on each side of the tank to provide uniform support free from voids. All over excavation beyond the twenty-four inch (24") limit shall be backfilled with "Suitable Backfill" and compacted as specified in Section 2.03.04. Backfilling of pea gravel and suitable backfill shall proceed simultaneously with equal layers on either side of the temporary form.

2.04 EROSION CONTROL

2.04.01 Scope of Work

Erosion control shall include all work, materials and measures necessary to control soil erosion resulting from construction operations and prevent flow of sediment from the construction site.

Erosion control measures taken at the site shall be in full conformance with and meet all requirements of the "Standards for Soil Erosion and Sediment Control - New Jersey State Soil Conservation Committee."

2.04.02 Materials

Mulches may be hay, straw, fiber mats, netting, wood cellulose, bark, wood chips or other suitable material acceptable to the Resident Engineer, and shall be reasonably clean and free of noxious weeds and deleterious materials.

Slope drains may be constructed of pipe, fiber mats, plastic sheets or other materials acceptable to the Resident Engineer that will adequately control erosion.

Jute and excelsior matting shall conform to soil conservation service standards.

2.04.03 Methods of Construction

The primary objective of this provision is to control soil erosion to the maximum extent practicable.

Such work may include the installation of water diversion structures, diversion ditches, sedimentation basins and mulching areas to provide temporary protection and covering stockpiled soil with netting to prevent erosion.

The Resident Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and

grubbing, excavation, burrow and fill operations, and to direct the contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of any stream or other water course, lake, pond, or other area of water impoundment. Such work may involve the construction of temporary berms, dikes, dams, sediment basins, slope drains, and use of temporary mulches, mats, seeding or other control devices or methods as necessary to control erosion.

The contractor will be required to incorporate all permanent erosion control features into the project as early as possible.

2.05 OMITTED

2.06 OMITTED

2.07 OMITTED

2.08 PAVING

2.08.01 Scope of Work

The work shall include the restoration of existing paved surfaces damaged and new paved surfaces as shown on the contract drawings.

The work shall conform to the applicable requirements of the New Jersey Department of Transportation Standard Specification for Road and Bridge Construction (N.J.D.O.T.)

2.08.02 Paving Materials

All new paved surfaces shall have a 6" gravel base course, a 4" bituminous stabilized base course, and a 2" bituminous concrete surface course.

Pavement restoration shall consist of 12" thick backfill compacted to 95% Standard Proctor Density, a five inch bituminous stabilized base course and a one inch surface course.

Material for the gravel base course on paved surfaces and for the compacted backfill for pavement restoration shall be soil aggregate Type 2, Class A or Class B, conforming to the requirements of Division 3, Section 1 and Division 8, Section 8, of the New Jersey D.O.T. Standard Specifications for Road and Bridge Construction. Wherever the term "gravel" or "road gravel" is used in this section with reference to new material, it shall be construed to mean soil aggregate as specified above.

Bituminous stabilized base course shall conform to the current requirements of Mix No. 1 of the New Jersey D.O.T.

Bituminous concrete surface course shall conform to the current requirements for Mix No. V of the New Jersey D.O.T.

Tack coat and prime coat materials shall conform to the New Jersey D.O.T. Specification for Hot Mixed Bituminous Concrete.

Before construction of the gravel base course, the pavement subgrade shall be shaped and compacted and, when finished, shall conform to the required grade and contour. The subgrade shall not be wet or frozen when the gravel base course is placed.

The gravel shall be spread in the quantity required and compacted as specified in Division 3, Section 5 of the New Jersey D.O.T., so that when compacted and finished it will be six inches thick at the required grade shown on the plans. Frozen material shall not be used.

A prime coat of asphaltic oil, tar or emulsified asphalt shall be applied to the gravel base course at a rate of 0.25 gallon to 0.50 gallon per square yard as directed by the Resident Engineer. Application of the prime coat shall be made not less than twelve hours prior to the place of the bituminous stabilized base course and shall not be made when the gravel base is set or frozen.

Bituminous stabilized base course construction shall conform to the New Jersey D.O.T. Specifications for Hot-Mixed Bituminous Concrete Surface Course in Article 3.10.3 with the following amendments:

The mixture shall leave the plant at a temperature sufficient for workability under prevailing conditions. However, the temperature of the mixture when laid shall not be less than 275 degrees F.

A tack coat shall be applied to this layer at the rate of 0.02 to 0.08 gallons per square yard.

Bituminous stabilized base course shall have a minimum weight per square yard of 120 pounds per inch of depth of compacted thickness.

Methods of construction and equipment for the bituminous concrete surface course shall conform to Article 3.10.3 of the New Jersey D.O.T. Specifications.

2.09 OMITTED

2.10 FENCES AND GATES

2.10.01 Scope of Work

The contractor shall restore any fence, furnish and install chain link fence and gates as required by the drawings and to the limits as shown on the contract drawings and as specified herein.

2.10.02 Materials

Fabric shall be six foot or eight foot high aluminum coated chain link, six gage, and shall conform to the requirements of ASTM 491. Fabric shall be woven in a two inch diamond mesh. Top and bottom selvage shall have barbed points. Basic steel will be medium high carbon quality and have a minimum tensile strength of 80,000 pounds per square inch.

Posts and all other appurtenances shall be hot-dipped galvanized with a minimum zinc coating of 2.0 ounces per square foot of surface.

Line post shall be 2-1/2 inch O.D. standard weight pipe of 3.65 pounds per linear foot.

End, corner and pull post shall be 2-7/8 inch O.D. standard weight pipe of 5.79 pounds per linear foot.

Gate posts shall be four inch O.D. standard weight pipe of 9.11 pounds per linear foot.

Truss rods shall be 3/8 inch diameter round rods.

Gate frames shall be two inch O.D. standard weight pipe of 2.77 pounds per linear foot. Fabric to match the fence shall be installed in the frame by means of tension bars and hook bolts. Each frame shall be equipped with 3/8 inch diameter adjustable truss rods.

Top and bottom rail shall be 1-3/8 inch O.D. standard weight pipe of 1.34 pounds per linear foot, with couplings every twenty feet. Couplings shall be outside sleeve type at least seven inches long.

End, corner and intermediate post extension arms shall be of pressed steel or malleable iron base with pressed steel arm designed to extend at a 45 degree angle, slotted to carry three evenly spaced strands of barbed wire.

Concrete for fence and gate post foundation shall be 1-2-4 Mix.

2.10.3 Methods of Construction

The fence posts and gate posts will be set to lines indicated on the plans or as required, in concrete foundations to a depth of 36 inches and roughly circular with a minimum diameter throughout.

Post, braces and other units will be centered in the footing, before placing concrete. The concrete will be placed promptly after mixing. The tops of footings will be extended two inches above grade and shaped to slope away from the posts.

All posts will be truly vertical and concrete foundations firmly set before the fabric and gate swings are installed.

Gate posts shall extend to the full height of the fence and be equipped with a ball or dome shaped top so designed as to exclude moisture from the posts.

Gates may be fabricated using welded construction or heavy pressed steel or malleable corner fittings securely riveted. Gates must be properly braced to eliminate any possible sagging condition. Hinges shall be of sufficient strength and design to permit easy and trouble-free operation. All gates shall be equipped with a positive type latching device with a means of padlocking. All drive gates shall be equipped with center plunger rods, catch and semi-automatic outer catches to secure gates in open position.

The top and bottom rail is to pass through the intermediate post extension arms and form a continuous brace from end to end of each stretch of fence.

The fence will follow the finished grade line unless directed otherwise.

Chain link fabric will be securely fastened to all terminal posts by integrally weaving into the post or by using 1/4" x 3/4" tension bars with heavy 11 gage 1" wide pressed steel bands spaced approximately 14 inches apart. Bands will be equipped with 3/8" diameter carriage bolts and nuts. Fabric will be fastened to all line posts with heavy six gage wire clips spaced 14" apart and to the top rail with nine gage tie wires on 24" centers.

Posts will be evenly spaced in the line of fence no farther apart than 10-1/2 foot centers.

DIVISION 3

CONCRETE

INDEX

<u>SECTION NUMBER</u>	<u>TITLE</u>	<u>PAGE NUMBER</u>
3.01	CAST-IN-PLACE CONCRETE	1
3.01.01	General	1
3.01.02	Classes of Concrete	1
3.01.03	Portland Cement	1
3.01.04	Admixtures	2
3.01.05	Water	2
3.01.06	Fine Aggregate	2
3.01.07	Coarse Aggregate	3
3.01.08	Concrete Quality	3
3.01.09	Consistency	4
3.01.10	Determining Proportions and Concrete Testing	4
3.01.11	Measuring Materials	5
3.01.12	Site-Mixed Concrete	5
3.01.13	Ready-Mixed Concrete	6
3.01.14	Remixing Concrete	7
3.01.15	Placing and Vibrating Concrete	7
3.01.16	Bonding Concrete at Construction Joints	8
3.01.17	Curing and Protection	9
3.01.18	Trimming and Repairs	10
3.01.19	Surface Finish	11
3.01.20	Wood-Float Finish	11
3.01.21	Broomed Finish	12
3.01.22	Miscellaneous Concrete Fill	12
3.01.23	Finish Around Openings	12
3.01.24	Metalwork in Concrete	12
3.01.25	Forms	13
3.01.26	Removing Forms	14
3.01.27	Bonding Agent	15
3.01.28	Cold Weather Placement	15
3.01.29	Warm and Inclement Weather Placement	15
3.01.30	Construction Joints	16
3.01.31	Grouting	16
3.01.32	Omitted	16
3.01.33	Shop Drawings	16
3.01.34	Cutting and Patching	17
3.01.35	Massive Concrete Sections	17
3.01.36	Omitted	18

<u>SECTION NUMBER</u>	<u>TITLE</u>	<u>PAGE NUMBER</u>
3.02	REINFORCEMENT	18
3.02.01	General	18
3.02.02	Reinforcing Steel	18
3.02.03	Welded Wire Fabric	18
3.02.04	Fabricating and Placing	18
3.02.04.01	General Requirements	18
3.02.04.02	Bar Supports	19
3.02.04.03	Splices	19
3.02.04.04	Columns	19
3.02.04.05	Future Bonding	19
3.02.04.06	Welded Wire Fabric	19
3.02.04.07	Fabricating and Placing Tolerances	20
3.03	PRECAST CONCRETE	20
3.03.01	Scope	20
3.03.02	Precast Concrete Manholes	20
3.03.03	Precast Concrete Structures	20
3.03.03.01	General	20
3.03.03.02	Manufacturer	21
3.03.03.03	Strength	21
3.03.03.04	Design	21
3.03.03.05	Curing	21
3.03.04	Omitted	21
3.04	WATERSTOPS, CONSTRUCTION AND EXPANSION JOINTS	21
3.04.01	General	21
3.04.02	Materials	22
3.04.03	Sealant Application	22

3.01 CAST-IN-PLACE CONCRETE

3.01.01 General

The Contractor shall furnish materials, labor and all concrete required, as indicated on the drawings and as herein specified.

All concrete shall be site-mixed, or ready-mixed as produced by a plant acceptable to the Resident Engineer.

These specifications shall be supplemented by the latest ACI building code (ACI 318), and all requirements specified in this code shall be followed as if especially noted herein. This shall not, however, be construed to mean that any requirements set forth in these specifications can be modified because not specifically noted by the aforementioned code. In the case of conflicts between the referenced specifications and standards, the one having the more stringent requirements shall govern.

In addition, the work shall conform with any requirements specified on the plans, and specified in this specification, which may be superior to, but not contrary to, the applicable requirements specified hereinbefore.

All excavations for foundations and footings of structures must be completed and approved by the Resident Engineer before concrete foundation work is started.

Backfilling operations shall not begin, and dewatering operations shall be maintained until all walls, slabs, beams, interior channels, and other structural elements have been placed and allowed to attain the full design strength.

3.01.02 Classes of Concrete

Class A concrete shall be used for all reinforced and plain concrete not otherwise specified or noted on the plans.

Class B concrete may be used wherever a medium-strength concrete is allowed, as specified or indicated on the plans.

3.01.03 Portland Cement

All cement used on the work shall be American-made Portland cement, free from water-soluble salts or alkalies which will cause efflorescence on exposed surfaces. The cement manufacturer shall have a well-established reputation for producing a uniform, high-quality product. Unless otherwise approved by the Resident Engineer, cement from only one source shall be used throughout the work. All cement used in exposed work shall be uniform in color.

Normal Portland cement shall be Type 11, conforming to the ASTM standard specifications for Portland cement, designation C150-72 and to Federal specifications SS-C-192A for cements.

All cement to be used in the work shall be subject to testing to determine that it conforms to the requirements of the specifications. The methods of testing shall conform to appropriate specifications, but the place, time, frequency and method of sampling will be determined by the Resident Engineer in accordance with the particular conditions of this project.

When used in the work, cement shall be free from lumps.

3.01.04 Admixtures

All concrete work shall have an entrained air content of three (3) percent minimum to five (5) percent maximum. Air entraining admixtures shall conform to ASTM standard specifications, designation C260.

In addition, unless otherwise specified, all concrete shall contain a water-reducing admixture which shall conform to ASTM standard specifications designations C494 and C618. The water-reducing admixture shall be "Plastocrete" by Sika Chemical Co., or "Pozzolith 200 N" by Master Builders Co., or "Chemstrong A" by Castel Chemical Corp. The admixture shall contain no chloride ions.

All admixtures shall be added separately to the concrete mix, and shall be used only under close laboratory control.

Admixtures causing the accelerated setting of cement in concrete may be used only under extraordinary circumstances as approved by the Resident Engineer.

Where more than one admixture is used in mix, the admixtures shall be compatible with each other and the cement and aggregates.

3.01.05 Water

The water for concrete shall be clean, fresh and free from oil, acid, alkali, organic matter or other deleterious substances.

3.01.06 Fine Aggregate

Fine aggregate shall consist of inert natural sand conforming to the ASTM specification for concrete aggregates, designation C33-71A, except that the test for organic impurities shall conform to the ASTM standard method

of test for organic impurities in sand for concrete, designation C40-66.

3.01.07 Coarse Aggregate

Coarse aggregate shall consist of well-graded gravel or crushed stone, conforming to the ASTM specifications for concrete aggregates, designation C33-71A.

The maximum size of the aggregate shall not be larger than one-fifth of the narrowest dimension of the concrete work, nor larger than three-fourths of the minimum clear spacing between reinforcing bars, nor greater than 1-1/2 inch.

3.01.08 Concrete Quality

It is the intent of this specification to secure concrete of homogeneous structure for every part of the work, which concrete, when hardened, will have the required strength, watertightness and durability. To this end it is essential that careful attention be given to the selection of materials, mixtures, placing, spading or vibrating and curing of the concrete.

Concrete shall meet the following limiting requirements:

TABLE A

	<u>Class A</u>	<u>Class B</u>
Min. Compressive Strength (PSI)		
7 days	1,745	1,385
28 days	3,000	2,500
Max. Net Water Content -		
Gallons per Sack of Cement*	6.0**	6.75**
Gravel Aggregate	5.7***	-
Cement Factor - Sacks per		
Cubic Yard (Probable Average)		
Crushed Rock Aggregate	6.2***	-
Minimum Allowed	5.5	5.50

* Total water in mix at time of mixing, including free water in the aggregate.

** Maximum -- decrease when approved by Resident Engineer.

***For estimating only, not for construction.

Minimum -- increase as necessary to meet other requirements.

3.01.09 Consistency

Concrete shall be of such consistency that it can be worked readily into all parts of the forms and around embedded work without permitting the materials to segregate or free water to collect on the surface. Consistency shall be measured by the ASTM standard method of slump test for consistency of Portland Cement concrete, designation C143-71. The maximum slump of concrete, when placed, shall be four (4) inches.

3.01.10 Determining Proportions and Concrete Testing

No Class A or B concrete shall be used in the work until the materials and proportions have been accepted by the Resident Engineer.

The conformity of aggregates to the specifications hereinbefore given, and the actual proportions of cement, aggregates and water necessary to produce concrete conforming to the requirements set forth in Table A above, shall be demonstrated and determined by tests made with representative samples of the materials to be used on the work.

The Contractor shall retain and pay all costs of a qualified testing laboratory accepted by the Resident Engineer to provide the concrete design mixes required by specification and to verify that materials conform to ASTM specifications.

Should the Contractor change supply of materials or request a change in concrete mix, the Contractor's test laboratory shall provide a new laboratory design mix confirming new proportions. The sole responsibility for producing concrete in the field having the strength required without causing excessive shrinkage cracks shall rest on the Contractor, regardless of the laboratory determination.

Aggregates shall be tested in accordance with the methods referred to in the specifications therefor.

All design mixes, including the water content of the concrete to be used in the work, shall be based on a curve showing the relation between water content and 28-day compressive strength of concrete made using the proposed materials. The curve shall be determined by four or more points, each representing an average value of at least four test specimens, and shall have a range of values sufficient to yield the desired data without extrapolation. All procedures and tests shall conform strictly to the ASTM method of making and curing concrete compression and flexure test specimens in the laboratory, designation C192-71. This work shall be by Contractor's test laboratory described above.

The water content of concrete to be used in the work shall correspond to a laboratory test strength at 28 days of 3450 PSI for Class A concrete, and 2875 PSI for Class B concrete. In no case, however, shall the resulting mix conflict with the limiting values for maximum water-cement ratio and minimum cement content as specified in Table A.

Reports of the tests of aggregates, the above-mentioned water content-strength curve, and a statement of the proportions proposed for the concrete mixture shall be submitted in triplicate to the Resident Engineer for acceptance as soon as possible, but not less than five (5) days prior to the proposed beginning of the concrete work.

3.01.11 Measuring Materials

All materials for concrete, including water, shall be measured with equipment and facilities suitable for their accurate measurement, and be capable of being readily adjusted to changing conditions as required.

Cement in whole standard sacks need not be measured.

Water shall be measured by volume or weight. The error of measurement shall not exceed 1/2 of 1 percent.

Unless otherwise authorized, cement shall be measured in full sacks or by weight, with each size of aggregate to be weighed separately. The error of measurement for successive quantities shall not exceed 1 percent.

Where volumetric measurements of aggregates are authorized, the weight proportions shall be converted to equivalent volumetric proportions, and suitable allowance shall be made for variations in the moisture condition of the aggregates, including the bulking of fine aggregate due to moisture and the method of compaction.

3.01.12 Site-Mixed Concrete

Concrete to be produced at the site shall be mixed in an approved batch mixer with a capacity of not less than 1/2 cubic yard. The volume of the mixed batch shall not exceed the manufacturer's rated capacity of the mixer.

The minimum mixing time for each batch (from the time when all solid materials and water are in the drum) shall be 1-1/2 minutes for mixers of 1 cubic yard capacity or less. For mixers of larger capacity, the mixing time shall be increased 30 seconds for each additional half cubic yard or fraction thereof. The mixer shall revolve at uniform peripheral speed of about 200 RPM. The entire batch shall be discharged before the mixer is recharged.

Dry packaged concrete conforming to ASTM C387-69, "Specifications for packaged, dry combined materials for mortar and concrete," may be used, provided the product intended for use can be shown to be capable of providing the concrete characteristics required.

3.01.13 Ready-Mixed Concrete

Ready-mixed concrete requirements shall be as herein set forth, and shall be fully complied with. The ready-mixed concrete plant and all operations pertaining to the production of the concrete shall be subject to the inspection and specific acceptance of the Resident Engineer. Methods of batching mix constituents shall conform to the requirements set forth above in "Measuring Materials," Section 3.01.11.

All central plant and rolling-stock equipment and methods shall conform to the truck mixer and agitator standards of the Truck Mixer Manufacturers' Bureau of The National Ready-Mixed Concrete Association, as well as the latest ACI standards for measuring, mixing and placing concrete, and with Sections 6 to 14, inclusive, of ASTM C94-72 standard specifications for ready-mixed concrete, insofar as applicable.

Ready-mixed concrete shall be transported to the site in watertight agitator or mixer trucks. The quantity of concrete to be mixed or delivered in any one batch shall not exceed the rated capacity of the mixer or agitator for the respective conditions, as stated on the name plates.

Centrally-mixed concrete shall be plant-mixed a minimum of one (1) minute for a capacity of 1 cubic yard or less, plus 15 seconds for each cubic yard (or fraction thereof) additional capacity. Agitation shall continue without interruption until discharge. For transit-mixed concrete, water shall be added at job site. Mixing shall be continued for at least 10 minutes, followed by agitation without interruption until discharge. In any case, concrete must be discharged at the site within one hour after water was first added to the mix, unless a longer time period is specifically approved by the Resident Engineer.

Attention is directed to the importance of dispatching trucks from the plant so that they shall arrive at the site of the work just before the concrete is required, thus avoiding excessive mixing of concrete while waiting or delays in placing successive layers of concrete in the forms.

3.01.14 Remixing Concrete

Concrete which has become segregated during transportation to, or on the site of, the work shall be satisfactorily remixed just prior to being placed in the forms.

Partially-hardened concrete shall not be deposited. The retempering of concrete which has partially hardened will not be permitted.

3.01.15 Placing and Vibrating Concrete

Unless otherwise permitted, the work shall be so executed that a section begun on any day shall be completed during the daylight hours of the same day. Lateral flow of concrete should be avoided.

No concrete shall be placed on frozen subgrade or in water, or until the subgrade forms and preliminary work has been approved. No concrete shall be placed until all materials to be built into the concrete have been set and have been approved by the various trades. All such materials shall be thoroughly clean and free from rust, scale, oil or any other foreign matter. No concrete shall be placed until the Resident Engineer has inspected the reinforcing steel for general conformity to requirements.

Forms and excavations shall be free from water and all dirt, debris and foreign matter when concrete is placed. Except as otherwise directed, wood forms and embedded wood called for or allowed shall be thoroughly wetted just prior to placement of concrete.

Concrete shall be transported to the place of final deposit as rapidly as practicable, and by methods which will prevent separation of ingredients and avoid rehandling.

Chutes for conveying concrete shall be metal or metal-lined, and shall be of such size, design and slope as to ensure a continuous flow of concrete without segregation. The slope of chutes shall not be flatter than 1 on 2, and all parts of a chute shall have approximately the same slope. The discharge end of the chute shall be provided with a baffle or, if required, a spout; and the end of the chute or spout shall be kept as close as practicable to, but in no event more than, five (5) feet above the surface of the fresh concrete. When the operation is intermittent, the chute shall discharge into a hopper. No concrete shall be dropped more than five (5) feet.

In thin sections (such as walls and columns) of considerable height, concrete shall be placed in such a manner as to prevent segregation and accumulations of hardened concrete on the forms or reinforcement above the mass of concrete

being placed. To achieve this end, suitable hoppers or spouts with restricted outlets shall be used as required or approved, unless the forms are provided with suitable openings.

Chutes, hoppers or spouts shall be thoroughly cleaned before and after each run, and the resulting water and debris shall not be discharged inside the form.

For any one placement, concrete shall be deposited continuously in 18-inch maximum layers in such a manner that no concrete will be deposited on concrete which has hardened sufficiently to cause the formation of seams and planes of weakness within the section, and so as to maintain, until the completion of the unit, an approximately horizontal surface.

Wooden spreaders shall not be left in the concrete.

During and immediately after being deposited, concrete shall be thoroughly compacted by means of suitable tools and methods, such as internal-type mechanical vibrators operating at not less than 5,000 RPM, or other tool spading, to produce the required density and quality of finish. Vibration shall be done only by experienced operators under close supervision and shall be carried on in such manner, and only long enough, to produce homogeneity and optimum consolidation without permitting segregation of the solid constituents, pumping of air, or other objectionable results. All vibrators shall be supplemented by proper spade puddling approximately two (2) inches away from forms to remove included bubbles and honeycomb. Excessive spading against the forms, causing the deposition of weak mortar at the surface, shall be avoided.

The concrete shall be thoroughly rodded and tamped about embedded materials so as to secure perfect adhesion and prevent leakage. Care shall be taken to prevent the displacement of such materials during concreting.

Construction joint materials shall be made as specified under the heading "Waterstops, Construction and Expansion Joints," Section 3.04.

3.01.16 Bonding Concrete at Construction Joints

In order to secure full bond at construction joints, the surfaces of the concrete already placed (including vertical, inclined and substantially horizontal surfaces) shall be thoroughly cleaned of foreign materials and laitance. Such cleaning shall be done by the use of suitable tools and methods, such as wire brushing or wet sandblasting, and shall be followed by recleaning by means of a stream of clean water or compressed air. Alternate methods of placing

cement grout against surfaces may be used as approved by the Resident Engineer.

The previously placed concrete at the joint shall be saturated with clean water, after which all pools shall be removed by air jet. After free or glistening water disappears, the concrete shall be given a thorough coating of neat cement grout mixed to the consistency of thick lead paint. The coating shall be at least 1/8 inch thick on vertical surfaces, and 1/4 inch thick on horizontal surfaces, and shall be well scrubbed-in by suitable means, such as stiff bristle brushes, wherever possible. New concrete shall be deposited before the neat cement grout dries.

3.01.17 Curing and Protection

All concrete work shall be protected against damage from the elements and defacement of any nature during construction operations.

All concrete surfaces shall be treated immediately after concreting or finishing is completed to provide continuous moist curing for at least three (3) days, regardless of the adjacent air temperature. Forms on walls and vertical surfaces shall be kept continuously wet; or if forms are removed before the end of the curing period, walls and vertical surfaces shall be covered with continuously water-saturated burlap or mats, or a liquid membrane curing compound shall be used. Horizontal surfaces and slabs shall be cured with one of the following methods:

1. Ponding to a depth of 1/2 inch
2. Continuously wet with lawn sprinklers
3. Continuously saturated burlap or mats
4. White polyethylene sheeting sealed with tape
5. Liquid membrane during compounds

For at least seven (7) days after having been placed, all concrete shall be so protected that the temperature at the surface will not fall below 50 degrees F. (See also Section 3.01.35 herein.)

Extreme caution must be taken to prevent loss of moisture from 3 to 10 hours after pouring, as the concrete is particularly vulnerable to shrinkage during this time.

Three (3) day concrete curing requirement shall be three (3) continuous days of 24 hours, including Saturdays, Sundays and all holidays. Method of curing shall also comply with ACI 308-71, "Recommended Practice for Curing Concrete." Liquid membrane curing compounds shall conform to ASTM C309. Such compounds shall be applied in accordance with the recommendations of the manufacturer, and shall not be used

on any surface against which additional concrete or other cementitious finishing materials are to be bonded, nor against any surface for which the final finish is incompatible with the use of curing compound.

Finished slabs shall be protected from the direct rays of the sun to prevent checking and crazing.

3.01.18 Trimming and Repairs

It is the intent of the specification to require forms, mixture of concrete, and workmanship to be such that concrete surfaces, when exposed, will require no patching.

As soon as the forms have been stripped and the concrete surfaces exposed, fins and other projections shall be removed. All recesses left by the removal of form ties shall be filled, and surface defects shall be repaired.

Defective concrete shall be cut normal to the surface until sound concrete is reached, but no less than one (1) inch deep. The remaining concrete shall be thoroughly roughened and cleaned of grease. Concrete around the cavity or the form-tie recess shall be thoroughly wetted, cleaned of grease, and promptly painted with a 1/16 inch brush coat of neat cement grout mixed to the consistency of lead paint. The hole shall then be filled with mortar.

Mortar shall be a 1 to 1-1/2 cement to sand mix, with sufficient white cement or fine limestone screening in lieu of sand to produce a surface matching the adjoining work. Cement and sand shall be from the same sources as in the parent concrete.

For filling form-tie recesses, the mortar shall be mixed until slightly damp to the touch (just short of "balling"); hammered into the recess until it is dense and an excess of paste appears on the surface; and then troweled smooth. Mortar in patches shall be applied so that after partial set it can be compressed and rubbed to produce a finish that is flush and uniform in texture with the adjoining work. All patches shall be warm moist cured as above specified.

The Contractor shall be responsible for the adherence of mortar used in repairing concrete. He shall prepare the cavity and apply the repair material in such manner that this end may be attained. Unless specifically otherwise required, mortar shall not be applied as a coating or plastering over the surfaces, but each void shall be individually filled.

The use of mortar patching as above specified shall be confined to the repair of small defects in relatively "green" concrete. If substantial repairs are required, the

defective portions shall be cut out to sound concrete and the concrete replaced by means of a cement gun, or the concrete shall be taken down and rebuilt, all as the Resident Engineer may decide or direct.

3.01.19 Surface Finish

Fins and irregularities shall be smoothed on concrete surfaces to be given no finish.

Concrete surfaces against which other concrete (including structural concrete or concrete fill) or unit masonry will be placed later, shall be struck-off true as indicated on the drawings, or approved by the Resident Engineer as the concrete is being placed. As soon thereafter as the condition of the concrete permits, and before it has hardened appreciably (normally within two (2) hours after being deposited), all water, scum, laitance and loose aggregate shall be removed from the surface by means of wire brush or bristle broom in such a manner as to leave the coarse aggregate slightly exposed and the surface clean. Raking or other methods which cause weak serrations shall not be used. The formation of depressions and general unevenness shall be avoided. Thereafter, the contractor shall take all necessary precautions to ensure that the surface thus prepared shall be kept clear of storage piles, and free from drippings, staining or the accumulation of substances which would adversely affect the concrete or the bond between the layers of concrete.

A broom finish shall be given to the top surface of sidewalks, after wood floating and steel troweling.

A wood-float finish shall be given to all exposed surfaces which are not otherwise specified or indicated on the drawings.

Concrete surfaces shall be prepared in accordance with the coating manufacturer's requirements for those surfaces intended to receive a coating.

3.01.20 Wood-Float Finish

Surfaces to be given a wood-float finish shall be finished by tamping with special tools to force aggregations away from the surface, and by screeding with straight edges to bring the surface to the required line.

As soon after screeding as the condition of the concrete permits, and before it has hardened appreciably, all water film and foreign material which may work to the surface shall be removed by means of lutes. Rough finishing shall be done with straight edges and darbies. Machine floating, if used, shall not be started until the surface will support

the float adequately without digging-in and/or bringing excess fines to the surface. At such time, a minimum of machine and/or hand floating with a good float shall be employed to bring the finish to a true and uniform surface with no coarse aggregate visible.

Under no circumstances shall sprinkling with water or dusting with cement during finishing be permitted.

3.01.21 Broomed Finish

Surfaces to be given a broomed finish shall be finished by tamping with special tools to force aggregates away from the surface, and screeding with straight edges to bring the surface to the required line.

As soon after screeding as the condition of the concrete permits, and before it has hardened appreciably, it shall be "broomed" with a hand-bristle push broom at least two (2) feet wide. Brooming shall be a continuous operation with the broom passing over the concrete, perpendicular to the direction of travel, in smooth straight lines.

After brooming has been completed, and when the condition of the concrete will so allow, an edging tool shall be applied around the edges.

3.01.22 Miscellaneous Concrete Fill

Unless otherwise indicated on the drawings or specified, miscellaneous concrete fill shall be Class B concrete.

Wherever concrete fill is to be used, the joint with the underlying concrete shall be treated as specified under "Bonding Agent," Section 3.01.27.

3.01.23 Finish Around Openings

Where pipes and other items pass through openings in the concrete formed without permanent sleeves, the spaces between the pipes and the edges of the openings shall be filled with non-shrink mortar grout.

The pipes and other items shall be clean and dry. The structural concrete shall be clean and thoroughly wetted.

3.01.24 Metalwork in Concrete

All castings, inserts, conduits and other metalwork, as specified elsewhere in these specifications, shall be accurately built into or encased in the concrete by the Contractor furnishing the materials. All necessary precautions shall be taken to prevent the metalwork from being displaced or deformed.

Placement of metalwork for equipment shall be based on final approved equipment shop drawings. It is the Contractor's responsibility to obtain the information required in sufficient time to avoid delaying job progress.

Aluminum shall not be cast into concrete or come into direct contact with concrete work without a coating or detail accepted by the Resident Engineer.

3.01.25 Forms

All concrete form work shall comply with ACI standard recommended practice for concrete form work, ACI-347-68. Forms shall be used for placement of all concrete; and forms shall be so constructed and placed that the resulting concrete will be of the shape, lines, dimensions, and to the elevations indicated on the drawings. All forms shall be of suitable material, design and construction so as to be rigid-tight to prevent the passage of mortar; and, for plane surfaces, plane within 1/16 inch in four (4) feet unless otherwise specified. Particular care shall be taken to ensure that forms are true to line where deviations in the concrete would be obvious or objectionable, or where the tops of walls are exposed. All such deviations which may occur shall be corrected by, and at the expense of, the Contractor, as directed, even to the extent of tearing down and rebuilding the concrete. Forms for walls, columns or piers shall have removable panels at the bottom for cleaning, inspection and scrubbing-in of bonding grout. Forms for thin sections (such as walls or columns) of considerable height shall be arranged with suitable openings so that the concrete can be placed in a manner that will prevent segregation and accumulations of hardened concrete on the forms or reinforcement above the fresh concrete, unless special spouts are used to place concrete, and so that construction joints can be properly keyed and treated. Suitable molding or bevels shall be placed so as to produce a chamfer on exposed projecting corners. All exposed edges shall have 3/4 inch chamfer. Forms shall be sufficiently rigid to prevent displacement or sagging between supports, and constructed so that the concrete will not be damaged by their removal. The Contractor shall be entirely responsible for their adequacy. All forms shall be oiled with an approved nonstaining oil or a liquid form coating. Before form material is reused, all surfaces that are in contact with the concrete shall be thoroughly cleaned, all damaged places repaired, and all projecting nails withdrawn.

Form ties to be encased in concrete shall not be made of through bolts or common wire, but shall be of a well-established type, so made and installed as to embody the following features:

(a) After removal of the protruding part of the tie, there shall be no metal nearer than two (2) inches to the face of the concrete.

(b) Where the tie is to be removed from a point two (2) inches or more in from the face of the concrete, that part of the tie which is to be removed shall be at least 1/2 inch in diameter or, if smaller, it shall be provided with a wood or metal cone one (1) inch long, placed against the inside of the forms. Cones shall be carefully removed from the concrete after the forms have been stripped.

(c) Ties which pass through walls subject to hydrostatic pressure shall be provided with approved water stops, such as washers, welded all around the ties.

3.01.26 Removing Forms

Forms shall be removed in a manner which will prevent damage to the concrete.

Forms and supports shall remain in place for not less than the following periods of time. These periods represent cumulative number of days or fractions thereof, not necessarily consecutive, during which the temperatures of the air surrounding the concrete is above 50 degrees F.

Probable Outside Mean Daily Temperature After Form Removal

	<u>Above 50 F.</u>	<u>Above 32 F.</u>	<u>Above 23 F.</u>	<u>Below 23 F.</u>
Sides of Beams and Girders	1 day	3 days	7 days	28 days
Walls and Columns	1 day	3 days	7 days	28 days
Bottoms of Beams, Girders, and Slabs	7 days	10 days	14 days	28 days

NOTE: Where such forms also support formwork for the bottom of beams, girders, and slabs, the removal time of the latter shall govern.

NOTE: Temperatures are from available 5-day and longer forecasts.

Shores shall not be removed until the concrete has attained at least 75 percent of the specified cylinder strength, and also sufficient strength to support safely its own weight and the construction live loads upon it.

3.01.27 Bonding Agent

Where bonding new concrete to existing, the existing concrete shall be mechanically roughened to create a physical bond. After removal of all loose concrete chips, dust, dirt or other foreign material, it shall be thoroughly wet-down and brush-coated with Daraweld C Bonding Agent, as manufactured by W.R. Grace & Co., EIP-Weld Bonding Adhesive Type 11 manufactured by Allied Composition Corp., or approved equal, immediately prior to pouring of fresh concrete. The bonding agent shall be applied in accordance with manufacturer's printed instructions.

3.01.28 Cold Weather Placement

In temperatures of 40 degrees F. and above, when it is not anticipated that temperatures will drop below 40 degrees F., no special protection is required for placing concrete other than providing heated concrete and the means of maintaining concrete temperatures of at least 50 degrees F. for a period of seven (7) days after placing.

For temperatures below 40 degrees F., concrete must be delivered to the project site at between 55 degrees F. and 70 degrees F. Water shall not be heated over 180 degrees F. Concrete work shall be protected by wind breaks, curing compounds and blanket covers, if necessary, in order to maintain the concrete in-place temperatures of at least 50 degrees F. for seven (7) days.

Accelerating admixtures shall not be used in any concrete work without written approval. In no case is calcium chloride to be used in concrete work.

Before the concrete is placed, the Contractor shall have immediately available all materials and equipment necessary for maintaining the temperature and curing requirements specified herein.

Concrete shall never be heated over 90 degrees F., nor will any other overheating which would produce a flash-set be permitted.

3.01.29 Warm and Inclement Weather Placement

During very warm weather, the concrete shall be delivered to the forms at the coolest practicable temperature. Concrete placement will not be permitted when, in the opinion of the Resident Engineer, the sun, heat, wind, rain, sleet, snow or

humidity would prevent proper placement. In no case shall concrete above 90 degrees F. be placed. If deemed necessary by the Resident Engineer, the Contractor shall add a retarding admixture.

3.01.30 Construction Joints

Where indicated, construction joints shall be of the types and at the locations shown on the drawings, or as requested by the Resident Engineer on shop drawings. All other construction joints shall be submitted for the Resident Engineer's review.

Construction joints shall be provided with adequate shear keys for succeeding pours, and reinforcement shall be continuous through such joints. The Contractor shall have means at hand to bring any slab pour to an emergency construction joint provided with the proper shear key and/or dowels, if an interruption in the supply of concrete or inclement weather makes such a procedure necessary.

Waterstops, as specified, shall be provided at all construction joints in concrete work in basement foundation walls or exposed to the weather. Joints at ends of waterstop materials shall develop water tightness equal to continuous member.

3.01.31 Grouting

The bonding material shall be a major brand, as approved by the Resident Engineer. Application shall be in accordance with manufacturer's directions.

Cement grout for equipment and miscellaneous metal installation, sealing openings, and as otherwise called for on drawings, shall be as manufactured by:

- (1) Aquabar -- Imperial (use for all exposed grout)
- (2) Aquabar -- Ironco
- (3) A-H Prod. -- Axpandcrete
- (4) Master Builders - Embeco
- (5) Sonneborn -- Ferrolith G

3.01.32 Omitted

3.01.33 Shop Drawings

The Contractor shall submit, for acceptance, shop drawings for concrete work showing reinforcement, bending details, bar schedules, stirrup spacing and placing details for all reinforcement. Approval of shop drawings shall in no way

relieve the Contractor from full responsibility for proper execution of the work and compliance with all requirements of the drawings. Details shall be carried out in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures," ACI 315, and as shown on the drawings.

Any errors, including omissions, coordination and errors in dimensions shown on shop drawings, shall be the responsibility of the Contractor. An effort will be made by the Resident Engineer to discover any errors in dimensions, coordination with other trades and of relative elevations, but the responsibility for these items shall remain with the Contractor.

3.01.34 Cutting and Patching

The Contractor shall cut and remove existing concrete work where necessary to facilitate the installation of new work of this division.

The Contractor shall patch existing concrete work as required where existing work has been damaged or removed incident to any work performed under this project, including work damaged or removed incident to installations by mechanical and electrical trades, and shall make all such other changes and removals as required to properly join new work with existing work throughout the entire project.

Where indicated, necessary, or as directed by the Resident Engineer, the Contractor shall provide an exterior grade bonding agent for concrete and masonry, such as Darweld C Bonding Agent by W.R. Grace & Co., EP-Weld Bonding Adhesive Type II by Allied Composition Corp., or approved equal, and shall be used in accordance with manufacturer's instructions.

Damaged surfaces and holes shall be patched as follows: small holes one (1) foot or less with non-metallic grout; and holes one (1) foot or greater with non-metallic grout plus pea gravel.

3.01.35 Massive Concrete Sections

All concrete with a minimum dimension of two (2) feet six (6) inches shall be considered as massive concrete sections.

Maximum dimensions of coarse aggregate shall be 1-1/2 inches.

Contractor shall submit, to the Resident Engineer for review, layout of proposed construction joints for all massive concrete sections.

Massive concrete shall be placed in successive vertical layers. Thickness of layers shall not exceed 18 inches and shall be even fraction of the total depth of concrete. No horizontal cold joints shall be permitted in foundation mats. See also Section 3.01.17 for curing and protection procedures.

3.01.36 Omitted

3.02 REINFORCEMENT

3.02.01 General

Details of concrete reinforcement not covered herein shall be in accordance with "Building Code Requirements for Reinforced Concrete" (ACI-318), the latest edition; and "Manual of Standard Practice for Detailing Reinforced Concrete Structures" (ACI-315), the latest edition.

Shop drawings, showing all fabrication dimensions and locations for placing of the reinforcing steel and accessories, shall be obtained before fabrication.

3.02.02 Reinforcing Steel

All reinforcement shall be new billet steel with a minimum yield strength of 60,000 PSI and shall conform to ASTM A-615, "Specifications for Preformed Billet-Steel Bars for Concrete Reinforcement." If No. 14 or No. 18 bars meeting these specifications are to be bent, they shall also be capable of being bent 90 degrees at a minimum of 60 degrees F. around a ten-bar-diameter pin without cracking transverse to the axis of the bar.

3.02.03 Welded Wire Fabric

Welded wire fabric shall be electrically-welded wire fabric of cold-drawn wire of gauge and mesh size shown on the drawings or required and shall conform to "Specifications for Welded Steel Wire Fabric for Concrete Reinforcement" (ASTM A185), except that welded intersections shall be spaced not farther apart than 12 inches in the direction of the principal reinforcement.

3.02.04 Fabricating and Placing

3.02.04.01 GENERAL REQUIREMENTS

All reinforcement bars, stirrups, hanger bars, wire fabric, and other reinforcing materials shall be provided as indicated on the project drawings or required by this specification, together with all necessary wire ties, chairs, spacers, supports, and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from rust, scale,

oil, grease, clay, and other coatings and foreign substances that would reduce or destroy the bond. Rusting of reinforcement shall not be a basis of rejection, provided that the rusting has not reduced the effective cross-sectional area of the reinforcement to the extent that the strength is reduced. Heavy, thick rust, or loose, flakey rust shall be removed by rubbing with burlap or other approved method. Prior to placing, reinforcement which has bends not shown on the project drawings or on approved shop drawings, or is reduced in section by rusting such that its weight is not within permissible ASTM tolerances, shall not be used. All reinforcement shall be supported and wired together to prevent displacement by construction loads or by placing of concrete.

3.02.04.02 BAR SUPPORTS

On ground, and where necessary, solid concrete blocks shall be used for support. Concrete, metal, plastic, or other approved bar chairs and spacers shall be furnished over formwork. Where the concrete surface will be exposed to the weather in the finished structure, the portions of all accessories within 1/2 inch of the formwork shall be galvanized or shall be made of plastic.

3.02.04.03 SPLICES

Splicing of reinforcement shall be in accordance with ACI Standard 318, except as modified herein and on the drawings. Where splices in addition to those on the project drawings are necessary, they shall be submitted for approval prior to their use. Splices shall not be made in beams, girders, and slabs at points of maximum stress.

3.02.04.04 COLUMNS

Vertical bars in columns shall be offset at least one bar diameter at lapped splices. To ensure proper placement, templates shall be furnished for all column dowels.

3.02.04.05 FUTURE BONDING

Exposed bars intended for bonding with future work shall be protected from corrosion as required by the project drawings.

3.02.04.06 WELDED WIRE FABRIC

Welded wire fabric shall be overlapped wherever successive mats or rolls are continuous in such a way that the overlap measured between the outermost cross wire of each fabric sheet is not less than the spacing of the cross wires plus two (2) inches. It shall be supported as required for reinforcing bars.

3.02.04.07 FABRICATING AND PLACING TOLERANCES

Bars shall be placed to the following tolerances:

1. Concrete cover to formed surfaces, plus or minus 1/4 inch.
2. Minimum spacing between bars, plus or minus 1/4 inch.
3. Top bars in slabs and beams:
 - (a) Members 8 inches deep or less, plus or minus 1/4 inch.
 - (b) Members more than 8 inches, but not over 2 ft. deep, plus or minus 1 inch.
4. Crosswise of members, spaced evenly with 2 inches.
5. Lengthwise of members, plus or minus 1 inch.

Bars may be moved as necessary to avoid interference with other reinforcing steel, conduits, or embedded items. If bars are moved more than one bar diameter, or enough to exceed the above tolerances, the resulting arrangement of bars shall be subject to approval.

3.03 PRECAST CONCRETE

3.03.01 Scope

This section includes all precast concrete, complete, except as specifically indicated otherwise in the contract documents. The work includes, but is not limited to, precast concrete manholes and structures.

3.03.02 Precast Concrete Manholes

Precast concrete manholes shall conform with the details indicated on the drawings and shall be in accordance with ASTM specification C478-80, except as indicated otherwise in the contract documents. The minimum ultimate compressive strength of all concrete shall be 4000 PSI.

3.03.03 Precast Concrete Structures

3.03.03.01 GENERAL

The extent, use, and general arrangement of precast concrete structures shall be as indicated on the plans. The Contractor shall be responsible for the coordination and proper relation of the work to the structure and to all other work.

The precast concrete shall comply with all other sections of this specification as they apply, except as modified herein.

3.03.03.02 MANUFACTURER

Precast manufacturer shall have suitable facilities and experience in the fabrication and erection of precast concrete structures of the type indicated on the plans.

3.03.03.03 STRENGTH

The minimum ultimate 28-day compressive strength of the precast concrete shall be 4000 PSI, established in accordance with other sections of this specification.

3.03.03.04 DESIGN

Prior to fabrication, the Contractor shall submit complete shop drawings for acceptance showing the dimensions of all concrete, size, location, and type of all reinforcement, location of all openings, inserts, embedded items, and installation details.

The shop drawings shall not be considered accepted, nor will fabrication start, until all work associated with other contractors has been coordinated and approved by this Contractor.

Design calculations sealed by a professional engineer shall be submitted for acceptance along with the shop drawings.

3.03.03.05 CURING

Curing of precast concrete shall conform to Section 3.01.17 in this specification, unless the precast concrete is steam-cured. Where units are cured by high-pressure steam, steam vapor, or other accepted process used to accelerate the hardening of cement, the curing time may be reduced, provided the compressive strength of the concrete is equal to that obtained by damp curing.

3.03.04 Omitted

3.04 WATERSTOPS, CONSTRUCTION AND EXPANSION JOINTS

3.04.01 General

Construction and expansion joints shall be of the type indicated on the drawings or specified herein, or equal, and shall be constructed only where indicated on the drawings or otherwise directed or approved. The Contractor shall plan the work to minimize the use of joints in addition to those indicated.

Footings, beams, columns and slabs shall have no horizontal joints. Unless otherwise indicated, all construction joints shall have keyways, the width of which is equal to one-third the thickness of the member in which they are placed.

Waterstops shall be used in all subsurface concrete structure joints, and where shown on the drawings.

3.04.02 Materials

Joint sealant shall be a two-component polysulfide sealant, such as Hormflex by W.R. Grace & Co., Colma Joint Sealant by Sika Chemical Corp., or an equal. Primer shall be as designated by the sealant manufacturer. Sealant color shall be as approved to match adjacent work.

Premolded joint filler, placed during construction, shall be of the thickness shown on the drawings, and of suitable length and width, and shall be non-asphaltic type standard cork expansion joint filler, preformed from clean granulated cork particles, and conforming to Federal specification HHF-341E, Type II, Class B, or equal, as approved by the Resident Engineer.

Joint filling or back-up materials used in joints to control depth of applied two-component polysulfide sealant shall be a non-asphaltic type closed-cell plastic foam filler, accepted by the Resident Engineer. Copper sheets, where specified, shall be 20 oz. soft-temper copper conforming to Federal Specification ZZ-C-502A, Amendment 3, for copper bars, plates, rods, shapes, sheets and strips.

Waterstops shall be center bulb ribbed polyvinylchloride waterstops, as manufactured by Vulcan Metal Products, Progress Unlimited, Inc., or equal. Waterstops shall be 3/8 inch thick x 6 inches long or 3/8 inch thick x 9 inches long, or as shown on the drawings.

3.04.03 Sealant Application

Surfaces of joints shall be clean, dry and sound. Joints shall be primed and sealed with a two-component polysulfide sealant as per manufacturer's printed instructions. In joints up to 1/2 inch wide, the sealant depth shall be one-half the joint width, but not less than 1/2 inch. Depth of joint sealant shall be controlled by packing joint to desired depth with non-asphaltic type closed-cell plastic foam filler accepted by the Resident Engineer.

All construction and expansion joints below grade, or where called for on the drawings, shall be provided with waterstops, installed and substantially set before concrete

is placed. Split keys shall be used where possible in placing waterstops.

The contractor shall thoroughly work the concrete to ensure that maximum density and imperviousness is obtained at all joints. Splices in the continuity, or at intersections of waterstops shall be joined by heat-sealing in an approved manner and in accordance with the manufacturer's instructions.

SECTION 02831

CHAIN LINK CANTILEVER SLIDE GATE
WITH AUTOMATIC GATE OPERATOR

INDEX

<u>Section Number</u>	<u>Description</u>	<u>Page Number</u>
1.	GENERAL	1
1.01	WORK INCLUDED	1
2.	PRODUCTS	1
2.01	CHAIN LINK CANTILEVER SLIDE GATES	1
2.02	AUTOMATIC SLIDE GATE OPERATOR	2
2.03	ELECTRIC GATE EDGE	3
2.04	AUTOMATIC SLIDE GATE REMOTE CONTROL SYSTEM	3
3.	EXECUTION	4
3.01	INSTALLATION	4
4.	PAYMENT	4

SECTION 02831

CHAIN LINK CANTILEVER SLIDE GATE WITH AUTOMATIC GATE OPERATOR

1. GENERAL

1.01 WORK INCLUDED

Contractor shall furnish, install, test and place into operation complete chain link cantilever slide gates with automatic gate operators and remote control system including gate, track, rollers, bearings, operators, drives, motors, controls, receivers, transmitters and accessories as specified, as indicated on the plans, or as otherwise required for a complete installation.

It is the intent of this Specification that the installation shall be complete in all respects and ready for use. The Contractor will be responsible for all incidental details and for any special construction necessary to complete the work in an acceptable manner.

The manufacturer shall be Anchor Fence Inc., Baltimore, Maryland or equal able to meet all of the requirements herein.

2. PRODUCTS

2.01 CHAIN LINK CANTILEVER SLIDE GATES

- A. Gate frames: Fabricate chain link cantilever slide gates in accordance with ASTM F 1184, Class 2, using 2 inch square aluminum members, ASTM B 221, alloy and temper 6063-T6, weighing 0.94 lb/ft. Weld members together forming rigid one-piece frame integral with top track. Provide 2 truck assemblies for each gate.

Internal uprights: 2 inch x 2 inch aluminum members welded in gate frames, at approximately 8 feet on center, subdividing frame into panels. Weld an additional 2 inch (50 mm) square lateral support rail adjacent to top horizontal rail. Bottom

rail shall consist of 2 inch x 4 inch aluminum member weighing 1.71 lb/ft.

- B. Chain link fence fabric: Shall be woven in a two inch diamond mesh, color and gauge to match fence. Install fabric with hook bolts and tension bars at all 4 sides. Attach to gate frame at not more than 15 inches on center.
- C. Bracing: Provide diagonal adjustable length truss rods, of 3/8 inch galvanized steel, in each panel of gate frames.
- D. Top track/rail: Enclosed combination one-piece track and rail, aluminum extrusion with weight of 3.72 lb/ft. Track to withstand reaction load of 2,000 lb.
- E. Truck assembly: Swivel type, zinc die cast, with 4 sealed lubricant ballbearing rollers, 2 inches in diameter by 9/16 inch in width, and 2 side rolling wheels to ensure truck alignment in track. Mount trucks on post brackets using 7/8 inch diameter ball bolts with 1/2 inch shank. Design truck assembly to withstand same reaction load as track.
- F. Gate hangers, latches, brackets, guide assemblies and stops: Malleable iron or steel, galvanized after fabrication. Provide positive latch with provisions for padlocking.
- G. Bottom guide wheel assemblies; Each assembly shall consist of two 4 inch diameter rubber wheels, straddling bottom horizontal gate rail, allowing adjustment to maintain gate frame plumb and in proper alignment. Attach one assembly to each guide post.
- H. Gates posts: Galvanized steel 4 inch OD schedule 40 pipe, weighing 9.1 lb/ft.
- I. Finish to match fence.

2.02 AUTOMATIC SLIDE GATE OPERATOR

The Automatic Slide Gate Operator shall have a 1 H.P. 120 volt, single phase high starting torque reversible motor. The single-phase motor shall be internally protected against overload and undervoltage in both the start and run windings with automatic reset.

Motor Contractor shall meet NEMA size "O" specifications. Limit switches shall be readily adjustable and securely locked in place after adjustment. 4L cogged belt, chain and sprocket motor speed reduction, with adjustable twin disc friction clutch shall be provided for mechanical overload

protection. The unit shall have an adjustable solenoid activated disc-type brake, and a quick disconnect for manual operation. Operator shall have open override circuitry to provide complete control of gate (from external controls) while closing. Internal timer limits run time of the unit to maximum 90 seconds in any one direction and delays reversal of gate 1.5 seconds when signaled by an open button, or safety device, to extend operator life. Operator shall have an audible warning alarm system which provides a 3 to 5 second advance warning that the gate operator is about to begin operation and should continue until the gate comes to a complete stop.

Housing of 16 gauge painted galvanized steel shall be provided. The operator shall be Stanley Model 570 or an approved equal.

2.03 ELECTRIC GATE EDGE

An electric gate edge sensor shall be installed on the vertical face (end) of the gate to automatically reverse the direction of the gate movement if the gate hits an obstruction.

2.04 AUTOMATIC SLIDE GATE REMOTE CONTROL SYSTEM

Furnish and install an automatic slide gate remote Radio Control System to operate both gates. The digital receiver and transmitter combination shall allow authorized personnel to code in any one of the 1,024 possible radio signal codes on one radio frequency. The radio frequency shall be 310 MHZ RF. The radio signal code combination shall be accomplished by setting a 10 position switch inside both transmitter and receiver.

- A. Digital Radio Receiver: A digital radio receiver shall be furnished and installed on each automatic slide gate operator to open and close the gates with a signal from a remote transmitter. Both gates shall open and close at the same time. A manually operated switch shall be provided to prevent the exit gate from closing while the entrance gate remains in the automatic mode. Contacts shall be provided to turn on canopy lighting. The receiver shall be as manufactured by Stanley Electronics.
- B. Transmitters: Three hundred (300) mini-model transmitters shall be furnished for operation of both

gates. The transmitters shall be as manufactured by Stanley Electronics.

3. EXECUTION

3.01 INSTALLATION

- A. Install the chain link cantilever slide gate with automatic gate operators in accordance with manufacturer's instructions.
- B. Concrete set gate posts: Drill holes in firm, undisturbed or compacted soil. Holes shall have diameter 4 times greater than outside dimension of post, and depths approximately 6 inches deeper than post bottom. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads. Set post bottom 36 inches below surface in firm, undisturbed soil. Place concrete around posts in a continuous pour, tamp for consolidation. Trowel finish around post and slope to direct water away from posts.

Check each post for vertical and top alignment, and maintain in position during placement and finishing operations.

4. PAYMENT

No separate payment shall be made for the various items, equipment, materials and work included in this section, unless specifically otherwise indicated. The cost of all work, unless specifically otherwise indicated, shall be included in the lump sum cost bid item "Complete Vehicle Refueling Facility".

SECTION 10530

PRE-FABRICATED FREE STANDING METAL CANOPY

INDEX

<u>Section Number</u>	<u>Description</u>	<u>Page Number</u>
1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	QUALITY ASSURANCE	1
1.03	STRUCTURAL DESIGN CRITERIA	1
2.	MATERIALS	2
2.01	STRUCTURAL FRAMING	2
2.02	ROOF/CEILING DECK	2
2.03	FASCIA SYSTEM	2
2.04	GUTTERS, TRIM AND FLASHINGS	3
2.05	COLUMN ENCLOSURE	3
2.06	SEALING MATERIALS	3
2.07	ACCESSORIES	3
3.	EXECUTION	3
3.01	ERECTION	3
4.	PAYMENT	4

SECTION 10530

PRE-FABRICATED FREE STANDING METAL CANOPY

1. GENERAL

1.01 WORK INCLUDED

Contractor shall furnish all the materials for and shall properly erect and install a pre-fabricated free standing metal canopy.

This shall include complete primary and secondary structural framing, roof/ceiling and fascia covering, trim, flashings, fasteners, weather sealing materials, drainage systems, gutters and downspouts, lighting, foundation design and all labor, materials, tools and appurtenances required to complete the work of this Contract.

It is the intent of this Specification that the installation shall be complete in all respects and ready for use. The Contractor will be responsible for all incidental details and for any special construction necessary to complete the work in an acceptable manner.

1.02 QUALITY ASSURANCE

The prefabricated free standing metal canopy shall be as manufactured by TEC Canopy or an equal by Fashion and as specified herein.

1.03 STRUCTURAL DESIGN CRITERIA

A. Except as stated herein or noted on drawings, primary and secondary framing and covering shall be designed for applicable codes of the State of New Jersey.

B. Basic Design Criteria: Conform to requirement of the following standards:

AISC Specification for Design, Fabrication and Erection of Structural Steel for Buildings (Current Edition).

AISC Code of Standard Practice for buildings and bridges (1986 Edition).

AISI Specification for the design of Cold-Formed Steel Structural Members, 1986.

AWS D1.1-1988 Structural Welding Code.

2. MATERIALS

2.01 STRUCTURAL FRAMING

Materials: Minimum yield strength: Structural shapes and plates, 36,000 psi; structural tubing, 33,000 psi; cold-formed structural members, 33,000 psi.

Fabrication: Perform in shop as much as possible for bolted field assembly. Note on drawings all field cutting or drilling required. Steel shall be straight, true and within AISC tolerances. Make cold-formed sections by precision brake forming to produce accurately dimensioned members, free of distortion. Surfaces shall be free of fins, burrs, deep gouges, and other irregularities; sharp edges shall be reduced by grinding to 1/8 inch radius; and welds shall be made smooth, uniform, and free of projections, undercuts, overlaps, inclusions, and other detrimental defects.

Welding shall be performed in accordance with AWS Code, by welders and welding operators who have been previously qualified for the type of welding involved. Perform welding preferably in flat position, by shielded or submerged electric arc methods only. Avoid welding members while incorporated slag or scale, and of full area required to develop joint strength.

Bolting: High strength ASTM A325-86 or A490-85 type for primary framing connections; low carbon steel ASTM A307-86a type for secondary framing connections. The facing surfaces of all bolted connections shall be smooth and free from burrs or distortions. High strength bolted connections shall conform to AISC Specification for Structural Joints (Current Edition).

2.02 ROOF/CEILING DECK

A bottom deck style roof/ceiling deck shall be furnished and installed such that the structural roof framing is not visible from beneath the canopy. The combination roof/ceiling shall be waterproof and made up of deck pans. Deck pans shall be 19 Ga., 16 inch wide, flush face, standing seam, interlocking with an ASTM G-90 galvanized coating, and smooth finish. Deck shall have a gloss factor of 80.

2.03 FASCIA SYSTEM

Fascia system shall be sloped and constructed using aluminum, preformed, standing seam panels, Patrician Bronze color, Fas-Lock Model RLP-1050 as manufactured by Fashion or equal.

2.04 GUTTERS, TRIM AND FLASHINGS

Minimum 20 Ga. galvanized ASTM C-90 coating. Finish quality shall match roof/ceiling deck.

Attachment devices:

- a. Provide manufacturer's standard devices such as subgirts, clops, pop-rivets and other devices necessary for proper assembly and attachment.
- b. Attach fascia panel to structural frame with a 1 inch x 2 inch backer channel.

2.05 COLUMN ENCLOSURE

Structural steel columns shall be enclosed with preformed sheet metal to cover electrical conduit, vent pipes and downspouts.

2.06 SEALING MATERIALS

Polysulfide, butyl, vinyl, neoprene, or other long-life high-performance weather-resistant type, in the form of compound, tape gasketing, or closures, as applicable for each condition.

2.07 ACCESSORIES

Lighting: Provide and install 2 foot x 2 foot surface mounted 400 W Super Metal Halide Drop Lens Light Fixtures with full parabolic reflector as indicated on the drawings. Light fixtures shall be as manufactured by Whiteway Division of Spaulding Lighting Inc. or equal.

Gutters: Concealed perimeter system to match roof/ceiling deck.

Downspouts: Fabricate of same type, thickness and finish as deck material, sized to adequately drain.

Flashing and trim: Match fascia system.

3. EXECUTION

3.01 ERECTION

Conform to the same requirements as for design in the AISC Specifications and the "Code of Standard Practice for Steel Buildings and Bridges", and with later modification and specific requirements for design herein. Provide templates for setting anchor bolts and clips.

Verify elevations of all anchor bolts to determine that the foundations are at proper elevation and suitably leveled off ready to receive base plates. Do this prior to erecting any steel whatever. The Contractor shall immediately correct every inaccuracy brought to his attention which might affect the prefabricated metal canopy.

4. PAYMENT

No separate payment shall be made for the prefabricated free standing metal canopy and work included in this section, unless specifically otherwise indicated. The cost of all work, unless specifically otherwise indicated, shall be included in the lump sum cost bid item #2, "Prefabricated Free Standing Metal Canopy".

SECTION 11140

FUEL PUMPS, STORAGE, DISPENSING SYSTEMS

AND MISCELLANEOUS APPURTENANCES

INDEX

<u>Section Number</u>	<u>Description</u>	<u>Page Number</u>
1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	QUALITY ASSURANCE	2
1.03	SERVICE OF MANUFACTURER'S REPRESENTATIVE	2
2.	PRODUCTS	2
2.01	DISPENSING UNITS (FIVE REQUIRED)	2
2.01.01	Unleaded Gasoline Fuel Dispensers (Two (2) Required)	3
2.01.02	Diesel Fuel Dispensers (Three (3) Required)	3
2.02	SUBMERSIBLE FUEL PUMPS (TWO REQUIRED)	3
2.03	OVER-FILL MANHOLES	3
2.04	VAPOR RECOVERY SYSTEM COMPONENTS	4
2.05	SECONDARY CONTAINMENT SYSTEM	4
2.06	SECONDARY CONTAINMENT CHAMBER FRAMES AND COVERS	5
2.07	DISPENSER PANS	5
2.08	ISLAND FORMS	6
3.	INSTALLATION	6
4.	PAYMENT	6

SECTION 11140

FUEL PUMPS, DISPENSING SYSTEMS, AND MISCELLANEOUS APPURTENANCES

1. GENERAL

1.01 WORK INCLUDED

Contractor shall furnish, install, test and place into operation the complete fuel dispensing systems including pumping, dispensing and control equipment, piping, valves, fittings, meters, controls and accessories as specified, as indicated on the plans, or as otherwise required for a complete and operational installation.

It is recommended that all bidders shall visit the site of the proposed installation to examine means of access to the site and to ascertain local working conditions and possible restrictions. The proposed site is located in front of the Transportation Garage next to the Brick Township High School on Chambersbridge Road in Brick Township, Ocean County, N.J.

Work shall include, but may not be limited to, the following:

- A. Furnish and install two (2) 1½ HP Submersible Fuel Pumps with leak detectors.
- B. Furnish and install five (5) "lighted" dispensers complete with high capacity hoses and automatic nozzles. Furnish and install one (1) fuel control key management system.
- C. Furnish and install 4" direct fill lines with 5 gallon overfill manholes.
- D. Run double containment fiberglass piping discharge lines from submerged pumps to dispenser island and run new vent lines.
- E. Furnish and install co-axial vapor recovery system for nozzles.
- F. Supply and set steel island forms as indicated on the drawings and install dispensers on same.
- G. Furnish and install prefabricated pan sumps under dispensers.
- H. Furnish and install secondary containment chamber frames and covers over fuel tanks.

All piping, fittings, valves and other appurtenances or accessories as required for the complete and operational installation shall be furnished and installed, whether or not specifically indicated on the plans or specifications.

Electrical and/or control connections between the dispensers, the Fuel Control Key Unit, the pumps, etc. and the existing circuit breaker panel, and between the various components that are included in the work.

1.02 QUALITY ASSURANCE

All equipment and materials furnished and installed shall meet all applicable local, State and Federal code requirements, shall meet or exceed industry standards and shall be installed in conformation with the manufacturer's recommendations.

Contractor shall be Licensed by State of New Jersey for Service Station Equipment Installation.

1.03 SERVICE OF MANUFACTURER'S REPRESENTATIVE

The Contractor shall furnish the services of manufacturer's representatives who shall instruct the OWNER's operating personnel in the proper operation, care and maintenance of all equipment. The cost for providing the services of the Manufacturer's Representative shall be included in the lump sum price bid for the item "Complete Vehicle Refueling Facility" . Assume 16 hours of instruction and training time.

2. PRODUCTS

2.01 DISPENSING UNITS (FIVE REQUIRED)

The dispensing units shall be a high capacity, twin, single product type. The base shall be heavy gauge stamped steel with prime undercoat and weather seal baked enamel finish. The chassis shall be bolted interlock design coated with baked anti-corrosion primer. The housing shall consist of rigidized stainless steel top and upper side panels, bright stainless steel pedestal side panels, bright stainless steel one (1) piece upper door frame, and one (1) piece stainless steel lower door panels. An emergency shear valve shall be installed at the base of the dispenser to prevent fuel from being discharged in the event of an accident.

Each dispensing unit shall be equipped with the following:

- A. One - product sign on lower portion of computer cover both front and rear.

- B. One - three piston, positive displacement meter tested and calibrated for accuracy at any speed or pressure.
- C. One - shear valve at base of dispenser OPW 10-R or equal.
- D. One - pulser, type and rating required by the Fuel Management System manufacturer.

Hose lengths shall be 16 feet as manufactured by Gasboy or equivalent. Fuel dispensing hoses shall be U.L. approved, static-wired type capable of handling product types being dispensed.

The dispensers shall be Model 9153XTW2 Gasboy dispenser or equal single product twin dispenser. Stainless steel anchor bolts and nuts shall be used to fasten the dispensers to the concrete island.

**2.01.01 Unleaded Gasoline Fuel Dispensers
(Two (2) Required)**

The dispensers for unleaded fuel shall have two (2) standard flow, automatic nozzles with unleaded spout and vapor recovery system for each hose, to include high hose retriever, nozzle boot, hanger lever, coaxial hose, swivel, vapor valve and connection hose as manufactured by Gasboy or equivalent.

2.01.02 Diesel Fuel Dispensers (Three (3) Required)

The dispensers for diesel fuel shall also have two (2) high flow, automatic nozzles with diesel spout and swivel. The center and garage building side dispensers require only one (1) hose.

2.02 SUBMERSIBLE FUEL PUMPS (Two (2) Required)

The submersible fuel pumps shall be equipped with a 1½ h.p., 230 volt, 60 cycle, single phase A.C. explosion proof motor and leak detector. Pumps shall be Red Jacket Model No. P150SI, or equal.

2.03 OVER- FILL MANHOLES

Over-Fill (Spill Containment) Manholes shall be furnished and installed on all fill lines and other tank connections susceptible to spills. Over-fill Manholes shall be Series SCM-5, by Fairfield Industries, Inc., or equal.

2.04 VAPOR RECOVERY SYSTEM COMPONENTS

A. Hose

Co-axial Stage II Vapor recovery Hose shall be furnished and installed. Hose shall be Superlite Co-Ax, as manufactured by Thermoid, Inc., or equal.

B. Fail-Safe Breakaway

Co-axial fail-Safe Breakaway hose connection shall be furnished and installed. Breakaway shall be 1" Fail-Safe Breakaway, as manufactured by Catlow, or equal.

C. Stainless Steel Trap

Stainless steel Stage II Vapor Recovery trap shall be furnished and installed. Trap shall be Model No. VT by Fairfield Industries, Inc. or equal.

D. Flexible Connectors

Secondary containment Underwriters Laboratories (U.L.) Listed underground flexible connectors shall be furnished and installed. Flexible Connectors shall be as manufactured by Teleflex Fluid Systems, Inc., or equal.

2.05 SECONDARY CONTAINMENT SYSTEM

The secondary containment system shall be of such a design that it will contain the primary piping system from the dispenser to the tank including the submersible pump housing and all swing joints. It shall allow for complete inspection of the primary pipe, during air pressure/soap testing, before the secondary system is complete.

The secondary containment system shall be compatible with products to be stored.

The secondary containment system shall be non-corrosive, dielectric, and non-degradable. It shall be resistant to attack from microbial growth.

The secondary containment system, materials and design shall have sufficient strength to withstand the maximum underground burial loads.

The secondary containment fittings shall be installed over the primary fittings after installation, testing, and inspection of the primary piping system is complete.

The secondary containment system shall have a monitored fluid collection sump at the low end of the system, at the turbine enclosure. This collection sump shall provide a fitting for insertion of a continuous monitoring sensor, to signal an alarm, should a leak occur in the primary piping.

The secondary containment system shall be the UL/ULC listed Red-Thread IIA piping system as manufactured by Smith Fiberglass Products, Inc., or approved equal.

2.06 SECONDARY CONTAINMENT CHAMBER FRAMES AND COVERS

A secondary containment chamber frame and cover shall be furnished and installed for each doublewall steel underground fuel storage tank. Frames and covers shall be cast in the concrete slab over the secondary containment chamber such that the containment chamber lid is inside of the manhole frames and covers at grade. The frames and covers shall be made of heavy duty steel coated with rust preventive paint and designed for an H-20 axle load. The frames and covers shall be triple access type with gaskets and stainless steel bolts to make covers watertight. The frames and covers shall be model 422 by Fairfield Industries or an equal.

2.07 DISPENSER PANS

Dispenser pans shall be furnished and installed under the dispensers to prevent fuel leaks and filter spills from escaping into the soil underneath. They shall provide a means of liquid tight entry for the double wall pipe as well as electric conduit. Pans shall be molded non-corrodible polyethylene and shall be designed to prevent both surface water and ground water from entering the pan.

Dispenser pans shall be equipped with the following:

- A. Shear valve mounting bracket
- B. Adjustable steel stabilizer bar
- C. Steel mounting frame
- D. Stainless steel anchor bolts
- E. Conduit entry cuffs and entry seals
- F. Monitoring collection well
- G. Pipe entry boot
- H. Sensor stabilizer tube for electronic sensor
- I. Drain fitting for draining sump to secondary containment piping

Dispenser pans shall be PolyTite as manufactured by Environ Products Inc., Lionville, Pa. or an approved equal.

2.08 ISLAND FORMS

Furnish and install heavy 12 gauge, galvanized steel plate island forms as indicated on the drawings. Island forms shall be as manufactured by Formex or an equal.

3. INSTALLATION

Material and equipment shall be installed in accordance with manufacturer's recommendations and with all local, state and Federal code requirements.

4. PAYMENT

No separate payment shall be made for the various items, equipment, materials and work included in this section, unless specifically otherwise indicated. The cost of all work, unless specifically otherwise indicated, shall be included in the lump sum price bid for the item "Complete Vehicle Refueling Facility", as scheduled in the Proposal.

SECTION 13216

DOUBLE WALL STEEL UNDERGROUND FUEL STORAGE TANKS

INDEX

<u>Section Number</u>	<u>Description</u>	<u>Page Number</u>
1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	QUALITY ASSURANCE	1
1.03	WARRANTY	1
2.	PRODUCTS	2
2.01	GENERAL	2
2.02	TANK MATERIALS	2
2.03	TANK FINISH	2
2.04	REVERSE FLANGED AUTOMATIC VAPOR PURGING MANWAY (AVPM)	3
2.05	CHARGED CONTAINMENT	3
2.06	SECONDARY CONTAINMENT CHAMBER	3
3.	INSTALLATION	4
3.01	ANCHORING TANKS	5
4.	PAYMENT	5

SECTION 13216

DOUBLE WALL STEEL UNDERGROUND FUEL STORAGE TANKS

1. GENERAL

1.01 WORK INCLUDED

Contractor shall furnish, install, test and place into operation two (2) double wall steel underground fuel storage tanks.

1.02 QUALITY ASSURANCE

- A. Tanks shall meet all applicable federal and state codes and regulations, and shall be compatible with the products to be stored.
- B. National Fire Protection Association (NFPA30) Flammable and Combustible Liquids Code and (NFPA31) Standard for Installation of Oil Burning Equipment.
- C. Manufacturer shall be FibreStar Tanks, Inc. (dba Buffalo Tank of Maryland) or equal capable of meeting all requirements herein.

1.03 WARRANTY

Tank manufacturer shall furnish, in writing, to Owner, a LIFE-OF-INSTALLATION WARRANTY. Warranty shall cover replacement or repair of tanks in the event of failure, through no fault of Owner, due to internal corrosion, external corrosion or structural failure for the life of the installation at the original point of delivery.

In addition, the tank manufacturer shall furnish, in writing, to Owner, a ZERO PRODUCT RELEASE CERTIFICATION. Certification shall affirm that, for the life of the tank, at the original point of installation, manufacturer will keep in effect property damage insurance against failures in tank integrity under normal operating conditions. Insurance shall be provided in the amount of not less than \$2,000,000 per tank, per occurrence.

An insurance policy naming the Brick Township Board of Education as the beneficiary shall be provided by the contractor before final acceptance of the work.

2. PRODUCTS

2.01 GENERAL

Furnish and install double wall corrosion protected steel underground fuel storage tanks. Furnish storage tanks designed and fabricated in double-walled construction for secondary containment with provision for leak monitoring of the interstitial space of the double walled tank. The tank shall be designed to withstand the internal fluid pressure both with and without the presence of hydrostatic soil pressure imposed on the tank walls. Furnish the tank fabricated in cylindrical wall and flat or convex end cap configuration. The tank exterior shall be corrosion protected by a factory applied fiberglass reinforced plastic cladding.

2.02 TANK MATERIALS

For the tank materials, furnish Class A open hearth or basic oxygen steel plate of good welding quality per UL 58. Tank designs shall withstand soil cover and AASHTO H-20 loading, including appropriate allowance for impact, when properly installed. Have tanks primary containment shell factory tested to 5 psig air pressure. Have the outer tanks shell designed to contain an inert gas or liquid at a pressure greater than the maximum internal pressure or be able to contain a vacuum for a period of not less than 1 month. Furnish entire tank assembly of all welded construction in accordance with requirements of UL 58 and tested and labeled accordingly.

Tanks shall be shipped with a minimum 10" Hg vacuum on interstitial space.

2.03 TANK FINISH

After fabrication, remove excessive weld splatter and grind tack welds and scars to a low profile. Entire exterior of tank abrasive blasted to SSPC SP-6 finish with proper surface profile. Maintain tank in protected environment until coated.

Within 12 hours after blasting, coat tank exterior with a base coat of clear isophthalic resin 5 to 8 mils in thickness.

Two layers of chopped glass fiber reinforcement roving in resin applied to a total thickness of at least 85 mils after hand rolling. Have fiberglass reinforced layers hand rolled after spray-up application to eliminate voids and bubbles and to ensure complete wetting of fibers.

Pigmented gel coat applied to a 10 to 15 mil thickness. Final coating shall be pigmented to ensure complete coverage and present uniform appearance free from foreign inclusions, dry spots, air holes, pinholes and blisters.

Completed coating thickness shall be not less than .100" minimum after cure. Have coating tested for holidays after cure using a 35,000 Volt spark type holiday detector. Make holiday repairs and retest until satisfactory results are obtained. Completed coating shall be capable of containing the product under normal service conditions in the event that the steel tank is perforated by corrosion or other causes.

Cladding shall be BUFFHIDE as applied by Buffalo Tank Corporation or equal.

2.04 REVERSE FLANGED AUTOMATIC VAPOR PURGING MANWAY (AVPM)

The double wall steel underground storage tanks shall be equipped with a patented twenty-four inch (24") diameter automatic vapor purging manway to make pump and piping installation trouble free service. Four 4" and three 2" NPT fittings shall be located in the cover of the AVPM. No other fittings shall penetrate the primary tank. Automatic purging tubes shall be installed to within $\frac{1}{2}$ " of the tank ends.

AVPM shall be isolated from the tank by means of dielectric gaskets furnished and installed by the tank fabricator. AVPM cover shall not be removed except under supervision of factory authorized installer or representative. If cover is removed in the field, it shall be retested to assure dielectric isolation.

A pipe shall be provided in the secondary containment vessel for mounting of monitoring probe. Lifting lugs shall be furnished to facilitate handling and installation. Primary and secondary vessels shall be air tested in accordance with UL-58. AVPM shall be tested to verify dielectric isolation.

The AVPM manway shall be covered in the factory using hand layup methods during the coating operation. Flange faces and threaded surfaces shall not be coated.

2.05 CHARGED CONTAINMENT

After test, the secondary containment vessel shall be charged with an inert gas.

2.06 SECONDARY CONTAINMENT CHAMBER

Provide and install secondary containment chambers for each tank. Containment chamber shall be FRP clad, steel

construction, equivalent to storage tank and capable of handling an H-20 axle load. The chamber shall be a 42" ID with a 30" manway at grade and 24" dia. bottom to match the tank AVPM. Containment chamber shall be a BTC containment chamber as manufactured by Buffalo Tank Corporation or equivalent.

3. INSTALLATION

Install storage tanks in accordance with STI-P3 Installation Instructions and NFPA 30 Section 2-3.

The excavation shall be free from material that may cause damage to the tank coating. (Care shall be taken during installation that foreign matter is not introduced into the excavation or backfill.)

The bottom of the excavation shall be covered with clean crushed stone or gravel to a depth of one foot, suitably graded and leveled prior to pouring the concrete foundation.

The excavation shall extend a distance of at least two (2) feet around the perimeter of the tank. After the concrete has cured for at least seven (7) days a layer of pea gravel shall be placed.

Before placing the tank in the excavation, all dirt clods and similar foreign matter shall be cleaned from the tank, and areas of coating damages shall be repaired with a suitable coating.

Equipment to lift the tank shall be of adequate size to lift and lower the tank without dragging and dropping to ensure no damage to the tank or the coating.

Tanks shall be carefully lifted and lowered by use of cables or chains of adequate length (Not less than 45° included angle) attached to the lifting lugs provided. A spreader bar should be used where necessary. Under no circumstances use chains or slings around the tank shell.

Backfill consisting of pea gravel shall be placed along bottom sides of tank by hand shoveling and tamping to ensure that the tank is fully and evenly supported around bottom quadrant. Pea gravel shall be clean and well-graded gravel (rounded particles) with a minimum diameter of 1/8" (3mm) and maximum diameter of 5/8" (16mm). No more than three percent (3%) passing a number 8 sieve. Dry density must be a minimum of 95 lbs.

The pea gravel shall be deposited carefully around tanks and to a depth of at least one foot over tank to avoid damage to coating especially where tamping is required. (See NFPA 30 and state or local codes for a depth of cover required.)

Metal or plastic thread or flange protectors should be removed from the unused openings and pipe plugs installed. Pipe plugs and blind flanges shipped installed in the tank should be removed from unused openings and reinstalled with proper joint compound or gaskets.

3.01 ANCHORING TANKS

Hold Down Straps: Preshaped straps along with isolation material furnished by the tank manufacturer shall be used.

All hold down straps must be uniformly snug. The load will be equally distributed when all straps are uniformly snug over the tank. Straps must be tightened until they are snug, but cause no deflection by checking tank diameter with a gauge stick before and after snugging straps.

4. PAYMENT

Payment for furnishing and installing underground storage tanks and appurtenances complete and operational at the locations indicated on the Plans shall be included in the lump sum price bid for the "Complete Fuel Storage/Dispensing System" item, as scheduled in the Proposal.

No separate payment shall be made for bedding or backfill used in the installation of new tanks. Payment for bedding and backfill installed, and removal and disposal of uncontaminated excess material from excavation for installation of the tanks shall be included in the lump sum cost bid for the "Complete Vehicle Refueling Facility".

SECTION 13350
TANK LEAK DETECTION, MONITORING AND FUEL MANAGEMENT

<u>INDEX</u>		
<u>Section Number</u>	<u>Description</u>	<u>Page Number</u>
1.	GENERAL	1
1.01	WORK INCLUDED	1
2.	PRODUCTS	1
2.01	TANK LEAK DETECTION/MONITORING SYSTEM	1
2.01.01	Wall Mounted Console	1
2.01.02	Magnetrostrictive Probe	2
2.01.03	Single-Cable Interstitial Sensing Elements Capable of Detecting Fuel or Water (Discriminating)	3
2.01.04	Single-Cable Pan Containment Sump Sensing Elements Capable of Detecting Fuel or Water (Discriminating)	3
2.01.05	Operation Capabilities	3
2.02	FUEL CONTROL SYSTEM	5
2.02.01	Software Features	5
2.02.02	Customized Software Features	6
2.02.03	Hardware Features	6
2.03	DESKTOP PERSONAL COMPUTER	8
2.03.01	System Components	8
2.03.02	Case & Power Supply	8
2.03.03	Data Storage	8
2.03.04	System Software	8
2.03.05	Monitor	9
2.03.06	Keyboard	9
2.04	INTERFACE & MANAGEMENT SOFTWARE	9
2.04.01	Tank Monitoring	9
2.04.02	Fuel Control/Management	9
3.	EXECUTION	10
3.01	INSTALLATION	10
4.	PAYMENT	10

SECTION 13350

TANK LEAK DETECTION, MONITORING AND FUEL MANAGEMENT

1. GENERAL

1.01 WORK INCLUDED

Furnish, install, test and place into operation a complete system for tank leak detection, monitoring and fuel management. The system shall include in general, but without limitation, the following:

- A. Tank Leak Detection/monitoring system
 - 1. Level monitoring probe
 - 2. Interstitial sensor
 - 3. Containment sump sensor
 - 4. Pan sump sensors
- B. Fuel Control System
 - 1. Fuel Island Terminal
 - 2. Fuel site controller
- C. Fuel Management system
 - 1. Personal computer
 - 2. CRT
 - 3. Printer
 - 4. Software

2. PRODUCTS

2.01 TANK LEAK DETECTION AND MONITORING SYSTEM

Furnish and install a complete system which combines inventory control for two (2) tanks, in-tank leak detection, hydrostatic leak sensing, containment sump sensing and pan sump sensing. The system shall feature a modular design that allows it to be configured with monitoring, input and output capabilities according to the needs of a particular site. System shall be model TLS 350 as manufactured by Veeder Root Environmental Products, or approved equal.

2.01.01 WALL MOUNTED CONSOLE

A wall mounted console shall consist of the following:

- A. A 2-line, 24 character liquid crystal display for on-site viewing of all inventory, leak detect, and alarm information.
- B. A 24-button front panel keyboard with control and alphanumeric function for programming, operation and reporting.

- C. Three front panel LEDs to provide a visual indication of power-on, warning and alarm conditions.
- D. An internal audible warning and alarm indicator.
- E. Intrinsically safe.
- F. Underwriter Laboratory (UL) listed.
- G. Remote audible visual alarm model BW 101 with "Caution Overfill Warning" sign.
- H. An integral report printer with built-in take-up spool for hard copy documentation of inventory, leak detect and alarm information.
- I. A standard RS-232 communications interface module providing data transmission to a computer, point of sale terminal or printing device.
- J. A 4-relay output module programmable to alarm limits and capable of actuating external alarm devices.
- K. An input/output combination module programmable to assign solid inputs from external devices to relay outputs for activating external alarm devices.
- L. A 4-input in-tank probe module (Maximum of two modules per console) compatible with standard magnetostrictive probes.
- M. An 8-input sensor module compatible with sump and/or interstitial float switch sensors.

2.01.02 MAGNETROSTRICTIVE PROBE

Magnetostrictive Probe with built in diagnostics as follows:

- A. Capable of utilizing standard gas and oil resistant wire between 14 AWG and 18 AWG for field connections.
- B. No more than two wires between each probe and the control console.
- C. Leak detection capability of 0.1 GPH.
- D. Third-party certification according to the U.S. EPA's "Standard Test Procedure for Evaluating Leak Detection Methods: Automatic Tank Gauging Systems".
- E. Third-party certification according to the U.S. EPA's "Volumetric Tank Tightness Testing Method".

2.01.03 SINGLE-CABLE INTERSTITIAL SENSING ELEMENTS CAPABLE OF DETECTING FUEL OR WATER (DISCRIMINATING)

Single-cable interstitial sensing elements capable of detecting fuel or water shall consist of the following:

- A. Plug in module for the console.
- B. Capable of utilizing standard gas and oil resistant stranded wire.
- C. No more than two wires between each sump and/or interstitial sensor and the control console.

2.01.04 SINGLE-CABLE PAN CONTAINMENT SUMP SENSING ELEMENTS CAPABLE OF DETECTING FUEL OR WATER (DISCRIMINATING)

Single-cable pan/containment sump sensing elements capable of detecting fuel or water shall consist of the following pan sensors, containment sump sensors:

- A. Plug in module for the console.
- B. Capable of utilizing standard gas and oil resistant stranded wire.
- C. No more than wires between each vapor sensor and the control console.

2.01.05 OPERATION CAPABILITIES

The ability to monitor inventory in up to eight (8) tanks and produce a combination of automatic and manual reports which include the following information:

- A. Fuel volume
- B. Fuel weight
- C. Water height
- D. Fuel temperature
- E. Ullage
- F. Temperature compensated fuel volume.
- G. Last inventory increase amount
- H. Last in-tank leak test result
- I. Time and date
- J. Tank identification
- K. Fuel identification
- L. 90% ullage

The ability to perform both automatic and manually activated leak detection tests, in compliance with Federal EPA regulations 40 CFR Part 280, which includes a leak analysis report. This leak analysis report must indicate tanks

failing a test, tanks passing a test and tanks invalidated from a test, as well as the reason for invalidation.

The ability to monitor up to sixty-four (64) interstitial areas and/or containment sumps.

Computer formatted and printing terminal formatted reports.

Programmable automatic report times.

Programmable Fuel Thermal Co-efficient of Expansion (FTCE).

Manifold tank capability.

Program alarm limits to warn of the following:

- A. Leaks
- B. Overfills
- C. High level
- D. High water
- E. Low inventory
- F. Thefts
- G. External input alarm

System must be capable of the following performance specifications in the underground fuel storage tanks:

- A. Relative height of fuel ± 0.1 "
- B. Relative volume of fuel ± 15 gallons.
- C. Height of water to 5"
- D. Fuel temperature ± 1.5 degrees F.
- E. Time ± 1 minute/month
- F. Leak detection rate of 0.1 GPH or greater

Store in memory at test ten delivery reports per tank.

Provide alarm history reports on demand, locally or remotely.

Provide flexible console profile set-up with U.S. or metric measurements.

The system consists of the following:

- A. One (1) console
- B. Three (3) tank gauges
- C. Seven (7) sump probes
- D. Three (3) hydrostatic monitoring
- E. One (1) remove audible visual alarm
- F. One (1) software program interfacing with fuel management system.

2.02 FUEL CONTROL SYSTEM

Furnish and install a key activated fuel control system to allow 24 hour unattended controlled access to the fuel dispensing equipment for total accountability of all fuel dispensed. The fuel control system shall be a Gasboy Series 1000 Fleetkey, as manufactured by Gasboy or equivalent. The system shall meet the following requirements:

2.02.01 SOFTWARE FEATURES

User Capacity: 100,000
Memory Capacity: Up to 848 transactions
Key Configuration: Single key system and/or dual key system.

A. Pump Control

Simultaneously controls up to 8 hoses.

Ability to activate/deactivate pump for one transaction via terminal.

Ability to enable/disable pump via terminal.

Two Loadable No-Pulse timeouts per pump.

Automatic disable of pump after loadable number of consecutive no quantity transactions.

Automatic site shutdown at specified time.

B. Key Lockout

By five digit key number; up to 10,000 lockouts

Individual, string, or range loading

Positive or negative file

C. Transaction Printing

Direct printout of transactions as they occur.

Operator sort and subsort of any 4 digit field, or product type, with totals.

Compacted format for sending transactions to a computer.

D. Inventory & Pump Totals

Maintains book inventory with loadable reorder point

for up to 8 tanks.

Maintains up to eight resetable pump totalizers.

E. Security

Loadable sign-on entry code for command mode.

Loadable system identification.

Personal I.D. Number (P.I.N.) entry with optional auto lockout after 3 consecutive bad entries.

F. Product Authorization

Controls access to product type, 9 loadable authorization codes, key encoded.

G. Product Limitation

Limits amount of fuel dispensed in a transaction, 10 loadable limit codes, key encoded.

H. Reasonable Odometer

Capable of performing odometer validity checks.
Calculates MPG for each transaction.

2.02.02 CUSTOMIZED SOFTWARE FEATURES

A. Manual Entry: An additional field that is manually entered via the Key System Key Pad.

B. Manual Entry Lockout: Allows owner to restrict system access by locking out the manual entry in addition to key number.

C. Supervisor Key: Allows owner to use a specially encoded supervisor key to manually enter key information at the Key System Key Pad.

D. Delivery and Dipstick: Accept and record fuel delivery and dipstick reading data at the Key System Key Pad.

2.02.03 HARDWARE FEATURES

A. Dimensions

System Head - 15" W x 12" H x 20" D
Height with Pedestal - 60"

B. Power Requirements

115 VAC $\pm$ 10%, 47-63 HZ, 135 watts maximum

- C. Environmental Requirements
-30°C to 50°C; 95% relative humidity, non-condensing
- D. Hose Control Capacity
Standard system controls expanded for 8 hose outlets, two (2) solid state relays per hose.
- E. Pulser Capacity
1:1, 10:1, 250:1, 500:1, 1000:1 ratios. Resolution to .001 gallon. Pulse rate selection switch sealable by Weights and Measures.
- F. Date Entry
One key receptacle reader. 3 x 4 membrane keypad with tactile feel 20 character .5" L.C.D. display.
- G. Lighting
Fluorescent lighting of system faceplate.
- H. Memory
32K RAM, battery backed
- I. Clock
Real-time, battery backed
- J. Safeguards & Protection
Transient protection on AC power input and RS 422 communication.

Fail-safe protection on pump control drives AC and DC power fail detect.

Deadman timer on microprocessor.

Missing pulse detectors.

Emergency stop button on system faceplate.

Audible "key left in reader" alarm.

Manual system override switches.
- K. Diagnostics
Built-in hardware and software diagnostics.

Key reader shall be located as shown on Service Island Layout on the contract drawings.

The contractor is required to provide 200 keys encoded with information provided by the Owner after award of contract. This will provide a duplicate key for each vehicle.

L. RS 232 Asynchronous Communication Ports

2.03 DESKTOP PERSONAL COMPUTER (PC)

Furnish and install a high speed stand alone computer system with peripherals and software for fuel data management. The computer shall incorporate the following:

The personal computer shall be furnished and delivered to the Fuel Manager's office within thirty (30) days after receipt of the Notice of Proceed.

2.03.01 SYSTEM COMPONENTS

- A. 486 DX 33 MHZ Processor
- B. 64K Read/Write Back Static RAM Cache
- C. Zero Insertion force (ZIF) Processor Upgrade Socket
- D. 4MB RAM on Motherboard (Upgradable to 32MB)
- E. 7 Expansion Slots: 6 16 Bit, 1 8-Bit
- F. Integrated I/O - (1 Parallel Port, 2 Serial Ports)
- G. Integrated IDE Hard and Floppy Drive Interface
- H. Weitek Co-Processor Support
- I. Fully Compatible BIOS with Setup, Diagnostics and Password Security in ROM
- J. Microsoft Mouse

2.03.02 CASE & POWER SUPPLY

Tower Case (7 Drive Bays) with 220 Watt Power Supply

2.03.03 DATA STORAGE

1.44MB 3.5" Floppy Drive - Device A
1.2MB 5.25" Floppy Drive - Device B
240MB IDE Hard Drive

2.03.04 SYSTEM SOFTWARE

MS DOS Version 5.0 and QBASIC
On-Line MS DOS 5.0 Users Guide
Microsoft Disk Caching Software
QAPLUS Diagnostic Software

2.03.05 MONITOR

14" 1024 x 768 SVGA Color Monitor
16 Bit VGA Video Card

2.03.06 KEYBOARD

101-S Keyboard

2.04 INTERFACE & MANAGEMENT SOFTWARE

2.04.01 TANK MONITORING

Tank monitoring software shall be furnished to permit and simplify on-site startup and storage of all data on disk for a permanent record of all parameters entered into the system. Software shall be TLS-Net II by Veeder-Root Environmental Products or equal.

- A. All setup data entered from PC Keyboard.
- B. Communication with tank monitoring system through RS-232 interface.
- C. Store all setup data on floppy disk for security and easy retrieval.
- D. Retrieve all system, monitoring and historical reports, send to printer or CRT.
- E. Diagnostic features to provide
 - a) system status report
 - b) system revision level
 - c) self-test reports
 - d) probe serial numbers

2.04.02 FUEL CONTROL/MANAGEMENT

Fuel control/management software shall be furnished for maintaining records of fuel site transactions and fleet maintenance shall be PCS005 as manufactured by Gasboy International, Inc.

- A. Communication with the fuel control system through RS232 interface.
- B. Generates fuel usage reports for drivers, vehicles and departments.
- C. Handles department invoicing.
- D. Stores year-to-date figures, calculates MPG.
- E. Calculates MPG based on mileage, fuel consumption and time period.
- F. Loadable maintenance codes and scheduled maintenance periods based on mileage, fuel consumption and time period.
- G. Scheduling report of vehicles due preventative maintenance.

3. EXECUTION

3.01 INSTALLATION

Intall tank leak detection, monitoring and fuel management equipment per manufacturer's recommendations. Set equipment at proper location, alignment and level. All external wire and conduits shall be installed by the electrical subcontractor who shall also label the wiring.

4. PAYMENT

No separate payment shall be made for the various items, equipment, materials and work included in this section, unless specifically otherwise indicated. The cost of all work, unless specifically otherwise indicated, shall be included in the lump sum cost bid item "Complete Vehicle Refueling Facility".

SECTION 15064
FUEL SYSTEM PIPING

INDEX

<u>Section Number</u>	<u>Description</u>	<u>Page Number</u>
1.	GENERAL	1
1.01	WORK INCLUDED	1
2.	PRODUCTS	1
2.01	FRP PIPING	1
2.02	GALVANIZED PIPING	1
3.	EXECUTION	1
3.01	INSTALLATION	1
3.02	TRENCH EXCAVATION	2
3.03	TRENCH FILL	2
3.04	INSPECTION	2
3.05	CONNECTIONS	2
3.06	TESTING	3
3.07	ADHESIVES	3
3.08	PRECAUTIONS	4
3.09	INSPECTION AND GUARANTEE	4
4.	PAYMENT	4

SECTION 15064

FUEL SYSTEM PIPING

1. GENERAL

1.01 WORK INCLUDED

Contractor shall furnish and install all piping, valves, fittings and connections for the complete fuel storage/dispensing installation indicated on the plans and specifications, or as otherwise required. All pipe shall be fiberglass reinforced polyester (FRP) double containment piping, unless otherwise approved. All materials shall be suitable and approved for the conveyance of petroleum products, alcohols and alcohol gasoline mixtures and shall meet all applicable code requirements.

All materials furnished and installed shall meet all applicable local, State and Federal code requirements, shall meet or exceed industry standards and shall be installed in conformance with the manufacturer's recommendations.

2. PRODUCTS

2.01 FRP PIPING

Fiberglass reinforced polyester (FRP) pipe and secondary containment piping, and fittings shall be corrosion-resistant, fiberglass reinforced, epoxy resin pipe listed by Underwriter's Laboratories, Inc., as non-metallic underground piping for petroleum products. FRP pipe shall be Red Thread IIA as manufactured by Smith Fiberglass Products, Inc., or approved equal.

2.02 GALVANIZED PIPING

To be used only where indicated on the plans, shall be schedule 40 (ASTM-A-120) with galvanized malleable iron (150 lb.) fittings. Galvanized pipe shall be treated with "Kopper's" Bitumastic 300M coating and wrapped with felt or tape.

3. EXECUTION

3.01 INSTALLATION

Installation shall be in strict accord with the manufacturer's instructions and plans and specifications.

Swing joints are not effective in FRP piping. Flexibility is to be provided by a minimum 4' length of pipe on either side of any directional change exceeding 30 degrees.

Avoid piping over underground tanks.

Provide minimum one (1) pipe diameter clearance between pipes, and between pipe and trench wall.

3.02 TRENCH EXCAVATION

Trench depth is to be determined by surface conditions and the type of overhead traffic.

There shall be a minimum of 6" of clean 1/8" to 5/8" pea gravel bedding under the pipe, compacted to obtain a firm uniform slope. Avoid sharp stones or rocks in excavation trench.

Pipe shall be installed below frost line. Entrenchment of pipe shall not be made in temperatures below 35 degrees F unless approved by Engineer for method and procedure.

3.03 TRENCH FILL

All pipe trenches are to be backfilled with clean 1/8" to 5/8" pea gravel and compacted in 6" layers to maximum density.

3.04 INSPECTION

Before installation all pipe shall be carefully inspected for possible damage, especially to the spigot or pipe wall connection.

3.05 CONNECTIONS

All pipe must be clean, free of sand and grease at connection ends. When FRP pipe is screwed into metallic fittings, remove any burrs from the steel which may cut into the fiberglass threads.

Start the thread by hand and make up hand tight, then tighten with strap wrench. Do not overtighten. Normally, one-half (1/2) to one (1) revolution is required after hand tight. When using power tongs, 75' lbs. is sufficient. Do no force threads. If thread does not make up correctly, back out and reclean.

When ambient temperatures are 70 degrees or below, heat should be applied to bonded joints (typically, epoxy adhesive will not cure or set up at temperatures below 45 degrees F). An electric heating collar must be used to insure a leak free connection. Heat is to be maintained at 350 degrees to 400 degrees F for 10 minutes on pipe and 20 minutes on fittings.

3.06 TESTING

Discharge Piping - Before pipe trenches are backfilled and with lines isolated from tanks, discharge piping shall be pressure-tested with 50 psi air from the submerged turbine pump to the safety shut-off (shear) valve that is located under the base of the dispenser. Pressure shall be maintained for 15 minutes or until the inspection is completed. Location of leaks to be detected by covering all pipe and connections with a mild soap solution and watching for leaks while the air pressure is being applied.

Vent Piping - shall be disconnected from the tanks and tested separately with 50 psi air, soaped as indicated in (A) above, and inspected for leaks.

Upon completion of initial testing:

Remove vent line pressure and connect to tank.

Reduce product line pressure to 30 psi and maintain until paving is completed. Leave pressure gauge on each line for inspection. (This last step assures detection of line damage due to construction activities).

All testing must be witnessed by the engineer. Contractor must give 48-hours notice in advance.

Caution - do not cover pressurize system. Maintain safety precautions at all times. Apply pressure slowly to achieve test pressure and slowly relieve pressure upon completion of test.

Secondary Containment Piping Test - Once all tests have been completed and acceptance by the Engineer on primary piping, secondary piping shall be installed and pressure tested to 50 psi air pressure from turbine enclosure to dispenser sump. Test reducer shells with threaded outlet shall be installed in both sumps to facilitate connection of an air pressure gauge and an air fill valve. Pressure shall be maintained for 15 minutes or until inspection is complete. All secondary piping shall be checked for leaks while under pressure by covering all pipe and connections with a mild soap solution and inspecting for bubbles.

3.07 ADHESIVES

Apply adhesives as per manufacturer's instructions.

3.08 PRECAUTIONS

Avoid contact with adhesive and hardener on skin; do not inhale fumes. During pressure testing sudden or excessive pressure surges should be avoided.

3.09 INSPECTION AND GUARANTEE

A precision line test (Petrotite) shall be conducted on all product lines prior to the final acceptance.

The Contractor shall guarantee his work for one (1) year from date of final acceptance against faulty workmanship and/or defective materials, making, at his expense, all necessary repairs during this one (1) year period if due to faulty workmanship and/or defective materials.

4. PAYMENT

No separate payment shall be made for piping, fittings, valves, accessories or appurtenances specified above. The cost of this work shall be included in the lump sum cost bid item for "Vehicle Refueling Facility" item, as scheduled in the Proposal. This cost shall include all labor, materials, equipment and all else necessary and incidental to completing the intent of the work as specified herein, or as otherwise required for the complete installation.

SECTION 16000

ELECTRICAL

INDEX

<u>SECTION NUMBER</u>	<u>TITLE</u>	<u>PAGE NUMBER</u>
1.	GENERAL	1
1.01	WORK INCLUDED	1
1.02	LAYING OUT THE WORK	1
1.03	DEMOLITION	2
1.04	GROUNDING	2
1.05	IDENTIFICATION	2
2.	MATERIAL	3
2.01	RACEWAY/CONDUIT	3
2.02	CONDUIT FITTINGS	5
2.03	OUTLET, DEVICE, JUNCTION AND PULL BOXES	5
2.04	MISCELLANEOUS STEEL AND HARDWARE	6
2.05	WIRING	6
2.06	WIRE DEVICES - PLATES	8
2.07	SAFETY SWITCHES	8
3.	SPECIAL OWNER REQUIREMENTS	9
4.	REMOVAL ALTERATIONS, RELOCATIONS, AND CONNECTIONS TO EXISTING SYSTEMS	9
5.	PAYMENT	10

SECTION 16000

ELECTRICAL

1. GENERAL

1.01 WORK INCLUDED

Furnish and install a complete electrical system including, but not limited to, the following:

- A. Feeders, branch circuit and control wiring.
- B. Connections to all building utility power and control equipment.
- C. Disconnect switches, fuses.
- D. Grounding.
- E. Canopy lighting.
- F. Excavation, backfilling, cutting, patching, etc.
- G. Temporary light and power.
- H. Compliance with plans and all sections of the specifications.
- I. Connections to equipment furnished by others.

The contractor shall furnish all labor, materials, tools, transportation equipment, services and facilities required for the complete, proper, and substantial installation of all electrical work. All fixtures, devices and equipment shown, noted or required on the drawings, and/or contained herein, shall be connected from the source of electric power to the final connection, tested, and made ready for satisfactory operation.

Any appurtenances and/or accessories not specifically mentioned, but necessary to the operation of the systems, shall be provided by the contractor at no additional cost.

The contractor is to coordinate with other trades and Owner for equipment locations and clearances required for equipment. Contractor to coordinate and modify layout accordingly.

The contractor hereby waives all claims to extra compensation for work performed and materials furnished beyond the scope of the contract without written authorization from the Owner.

1.02 LAYING OUT THE WORK

The layout indicated on the drawings is partly diagrammatic. All work shall be accurately laid out on the job with regard to the work of others, making adjustments as required to conform to the structural and architectural conditions and the work of other trades.

Unless otherwise indicated, the arrangement, position, connections, etc., shown on the drawings shall be taken as practicable. The right is reserved by the Owner to make minor changes in locations and arrangements when required by job development without additional compensation to the contractor.

1.03 DEMOLITION

The contractor shall remove any and all obsolete, unused or unnecessary electric items such as conduit, boxes, fittings, wire, lighting fixtures, etc. Any such items intended for such removal shall be completely verified and approved by the Owner.

Any existing electrical equipment that may need to be relocated to accommodate new work may be accomplished by the contractor, provided written permission has been obtained from the Owner.

All electrical items removed shall remain the property of the Owner, but shall be disposed of if so directed by the Owner. Items so directed shall be removed from the premises by the contractor at his expense. Contractor shall coordinate all locations of new equipment with items that are to remain in place and with all new equipment of all trades.

1.04 GROUNDING

All grounding shall be in accordance with the requirements of the National Electric Code.

Equipment grounding conductor shall be provided for all feeders and branch circuits which are installed in non-metallic conduits, and all motor circuits. Also, such grounding conductors shall be provided in all raceways buried in earth or using any flexible conduit. The equipment ground will consist of a metallic connection to ground all the non-current carrying metal parts of the wiring system or apparatus connected to the system. This includes all metal raceways, busways, outlet boxes, cabinets, switch boxes, motor frames and metallic enclosures for all electrical equipment.

1.05 IDENTIFICATION

Provide typewritten directories for panels, indicating use of each branch circuit and designating spare circuits. Handwritten directories are not acceptable.

Provide nameplates for all control equipment, special control switches, special outlets or devices, and disconnect switches.

Nameplates shall correspond to equipment designation as shown on drawings.

Nameplates shall bear notations exactly the same as the corresponding notations that appear on any required wiring diagrams, operating instructions and/or manuals.

Nameplates shall be laminated plastic with white letters on a black background fastened with stainless steel or brass screws. Adhesive or glue will not be acceptable.

Conduit markers of preprinted vinyl cloth, color coded, orange with black markings, shall be installed on conduits, with adhesive, indicating circuit name handled by conduit. Provide 6" minimum length for 2" and smaller conduit, and 9" length for larger conduits.

Adhesive markers and warning signs shall be manufactured by Thomas and Betts, W.H. Brady Company, or equivalent.

Each conduit shall be identified by its circuit name at each termination by a 1" diameter brass tag securely wired with brass wire to the conduit, or a substitute method acceptable to the Owner.

Each multi-conductor cable shall be identified by its circuit name at each end, or when passing through a manhole or pull box, by a 1" diameter brass tag securely fastened to the cable, or a substitute method acceptable to the Owner.

Each wire shall be identified by its designation as shown on the final accepted vendor's drawings. Identification shall be by means of W.H. Brady Company, Dennison Manufacturing Company, or equivalent, impervious to moisture.

Identification shall be at each end of wire. Identification shall be made for all wiring inside and outside of vendor's equipment throughout the entire project.

Tags shall be provided in all junction and pull boxes, terminal cabinets, and in the gutter spaces of all panels. Tags shall be of linen; shall be securely fastened to conductors; and shall be marked in indelible ink. In each case, the tags shall bear the circuit numbers and panel designation of the wire as installed.

2. MATERIAL

2.01 Raceways/Conduit

All conduit shall be run concealed insofar as is practicable. Conduits shall be exposed only where so indicated on the drawings or in unfinished areas.

Contractor shall verify with Owner the acceptability of exposed conduit.

Minimum conduit size shall be 3/4" unless noted otherwise on the plans.

Conduit shall be as follows unless otherwise indicated on the drawings:

A. Conduit installed underground leaving the building for extensions or connections to conduits for electric distribution cabinets, pumps, etc., provided under the site contract, shall be rigid metal conduit running under roadways, parking lots, etc., subject to heavy vehicular travel. Raceways shall be installed a minimum of 18" below finished grade or in accordance with governing NEC, whichever is greater.

All elbows, conduit sweeps, bends, etc., required on rigid, non-metallic conduit (PVC) to enter buildings, equipment, poles, etc., from an underground location or concrete encasement, shall be made with rigid metal conduit.

B. Furnish and install a distinctly colored metallic lined marker tape 6" in width in all electrical trenches, entire length, with appropriate wording, indicating electrical lines below. Tape shall be installed a minimum of 6" below finished grade. Tape shall be type that is detectable using a common metal detector, and shall be as manufactured by Seton or equal.

C. Conduit installed in or under pavement surfaces and exposed from the floor to a height of 8'-0" "above finished floor" shall be rigid metal, heavy wall galvanized steel. Threadless couplings will not be permitted; all couplings shall be threaded type.

D. All other conduit shall be electric metallic tubing with compression type couplings and fittings.

E. Final connections to motors and other vibrating equipment shall be made using a minimum 18" flexible conduit.

Rigid Metal Conduit: Hot dipped galvanized, mild steel pipe, zinc coated threads with an outer coating of zinc bichromate, as manufactured by Triangle, Republic, Wheatland, or equivalent.

Electric Metallic Tubing (EMT): Hot dipped galvanized, mild steel tube, zinc coated, as manufactured by Triangle, Republic, Wheatland, or equivalent.

2.02 Conduit Fittings

Rigid Metal and Intermediate Metal Conduit: Insulated metallic bushings shall be Thomas and Betts 1200 Series, Appleton, Crouse-Hinds, O.Z., or equivalent. Insulated grounding bushings shall be Thomas and Betts 3800 Series, Appleton, Crouse-Hinds, O.Z., or equivalent.

Electrical Metallic Tubing: Insulated set screw fittings, Thomas and Betts, or equivalent.

Explosion proof flexible conduit shall be Crouse-Hinds Type "ECGJH," Appleton, Killark, or equivalent.

Rigid Non-Metallic Conduit: Solvent with joints 1/2" through 1" non-metallic elbows, 1-1/4" and larger rigid metal elbows.

Conduit Outlet Bodies: Malleable iron fittings, Crouse-Hinds, Killark, or equivalent.

Expansion Fittings: Provide where conduits cross expansion joint, O.Z. Electrical Manufacturing Company, Crouse-Hinds, or equivalent.

Sealing Fittings: Crouse-Hinds Type "EYS" with Chico "A" compound and Chico "X" fiber, Appleton, Crouse-Hinds, or equivalent.

Any exposed raceway shall be run true, plumb and parallel or perpendicular to building lines.

Raceways shall be sealed where entering pull boxes or structures.

Sleeves: The contractor shall provide all sleeves (minimum #16 gauge steel) in floors, beams, walls, etc., needed for installing his work, unless otherwise specified hereinafter. The setting of sleeves in concrete, masonry, etc., shall be properly coordinated with respective trades. Sleeves through floor slabs to be set with tops 4" above floor.

2.03 Outlet, Device, Junction and Pull Boxes

Boxes for concealed work shall be stamped galvanized steel as manufactured by Steel City, Racor, or equivalent. Provide raised device covers to suit construction so that outlets are flush with finished surfaces. Boxes to be installed for vertical device mounting.

Boxes for interior exposed work shall be made of malleable iron with threaded hubs as manufactured by Crouse-Hinds, Appleton, or equivalent.

Boxes for exterior exposed work or where indicated as weatherproof shall be made of malleable iron PVC coated (55 mil). Screws shall be stainless steel.

Large junction and pull box shall be NEMA 4 gasketed with screw cover; indoor shall be NEMA 1 with gasketed covers. Screws shall be stainless steel. Provide terminal strips in boxes where instrumentation wiring has to be spliced or terminated. Boxes to be as manufactured by Hoffman, Electromate Manufacturing Company, or equivalent.

2.04 Miscellaneous Steel and Hardware

The contractor shall furnish and install all the necessary steel for supporting lighting, fixtures, panels, starters, disconnects, etc. Kindorf framing systems, rods, channels and fittings with galvanized ferrous metals will be permitted.

2.05 Wiring

Single conductor cables shall be used for feeders and branch circuit wiring. Minimum size wire shall be #12 AWG unless otherwise indicated, and shall be sized to conform to normal NEC voltage drops. Wire sizes #10 AWG and smaller shall be solid; #8 AWG and larger shall be stranded. All conductors shall be copper.

Feeders and all wiring in moist or wet locations underground or under the slab shall be 600 volt code type THHN-THWN. Branch circuit wiring in dry locations, above grade, in the interior of the building shall be 600 volt code type THHN-THWN or XXHW.

Solderless pressure type Scotchlok and Burndy connectors shall be used throughout for splices and taps. Insulation equal to the wire insulation shall be applied at all splices and taps over the connector and adjoining wire.

Motor control wiring, type stranded, #14 AWG THHN-THWN minimum.

Control cable, alarm station indicators, etc., shall be twisted pair multi-conductor with overall polyester film tape and GED prime jacket. Conductor shall be #16 AWG, 19 strand.

Signal cable (4-20 MA) to be 2 conductor #18 twisted shielded, Triangle or equivalent.

All instrument loop wiring shall be installed using individually shielded twisted pair #16 gauge wire with "XLPE" insulation, rated 90°C. In the case of multi-conductor cables, an overall shield on individual

conductors will maintain continuity throughout the wire run. Shield will be grounded at one end only.

Conductor insulation shall be color coded as follows:

AC 480 Volt and Above

208Y/120V System

Phase A - Brown
Phase B - Orange
Phase C - Yellow
Neutral - White

Phase A - Black
Phase B - Red
Phase C - Blue
Neutral - White

DC Power

DC Control - Blue

Positive Lead - Red
Negative Lead - Black

120 Volt control Wiring: Single conductor AC control wires shall be random colors except for yellow, green or white. White shall be used for control neutral leg, and yellow shall be used for interlock wires of foreign voltage that enter a motor control center compartment or control panel.

Equipment Ground: Green conductor shall be used.

All connections to motor transformers, control liquid devices in piping and ducts - 18" length maximum or of sufficient length to permit removal of equipment devices. All locations - liquid tight flexible.

Conductors shall be continuous from origin to panel or equipment without splices. Where tap splices are necessary and approved, they shall be made with suitable connectors in junction boxes. All terminals and tap splices shall be made secure with approved solderless pressure type connectors as manufactured by Burndy or Dossert Manufacturing Company, or equivalent. Tap splices shall be wrapped with insulating plastic tape in a manner approved for circuit voltage.

Lighting and receptacle branch circuit connectors shall be Minnesota Mining Company, "Scotchlok" pre-insulated connectors Types Y, R, and B, or equivalent by T&B and Burndy.

Mechanical devices used for installing conductors in raceways shall be approved for the purpose. Wire lubricant shall be UL approved. Pulling tension of cable in all cases shall not exceed 1000 pounds.

Control wiring terminations in control panels and in control devices shall be made utilizing T&B "Sta-Kon" insulated forked tongue terminals, unless proper terminals are provided with equipment or equivalent.

In any and all locations, where conductors of any type or size are stripped of insulation for the purpose of splicing, joining, or connecting to terminals, lugs, connectors, etc., the exposed ends of all such wire shall be coated with an "antioxidant and seizing compound" containing zinc particles. This compound shall be applied before inserting into any fixed terminals. Lugs, etc., shall be coated with the compound prior to final fastening in place. Compound shall be Ideal Industries "Noalux," ITT-Holub "Oxiban," or equivalent.

Splices shall be made watertight in any interior junction or pullbox, outlet box, cabinet, etc., and all splices made in any exterior junction or pullbox, manhole, handhole, lighting pole, etc., above or below grade, shall be made as follows:

- A. For wire sizes up to and including #6 AWG, packaged electrical insulating resin, with electrical spring connectors, size as required, as made by 3M "Scotchlok" 3576-3578, or equivalent.
- B. For wire sizes above #6 AWG, PST-Cold Shrink, collapsible core, EPDM connector insulators, with crimp-on connectors, size as required, as made by 3M 8404-7, 8405-7, 8406-9-11, 8407-12-16, or equivalent.

2.06 Wiring Devices - Plates

Switches, receptacles and other wiring devices shall be of type, size and rating indicated on the contract drawings.

All outlet boxes shall be galvanized, pressed steel in the finished sections and cast in the unfinished area, when exposed. The cast boxes shall be Types FS and FD with rounded steel cover plates.

Device plates shall be as follows:

- A. Exposed Work: Rounded cornered stamped galvanized steel.

Boxes for exterior exposed work or where indicated as weatherproof shall be made of malleable iron PVC coated (55 mil). Screws shall be stainless steel. Large junction and pull box.

2.07 Safety Switches

Switches shall be Type THN unfused for indoor use and Type THN unfused NEMA 3R for outdoor use as manufactured by General Electric, Square D, or equivalent.

Switches for use in Class 1, Division 1 Hazardous Areas, shall be NEMA 7, explosion proof. Provide auxiliary interlock contacts in switches so designated.

Provide auxiliary interlock contacts in switches so designated.

One manufacturer shall be used throughout the project.

3. SPECIAL OWNER REQUIREMENTS

The contractor shall provide a completely wired and operating electrical system for each and every item, fixture, appliance, receptacle or device, requiring same.

The contractor shall perform all wiring required for other trades and as required for all appliance installations.

The contractor shall make all final connections to equipment as required. Provide fused or unfused disconnect switches, as required by NEC, at all motor locations; weatherproof type if noted or required.

The contractor shall maintain continuity of existing circuits affected by this work.

The contractor may reuse existing conduit home runs with the approval of the Owner. Where such reuse is not possible, the contractor shall install new conduit and wire as required.

The contractor shall make all necessary panelboard additions and modifications to accomplish this work.

The contractor shall provide all labor and materials required for the installation of new lighting fixtures and wiring devices.

4. REMOVAL ALTERATIONS, RELOCATIONS, AND CONNECTIONS TO EXISTING SYSTEMS

The contractor shall remove, reroute and reinstall all electrical wiring indicated in the existing building. This shall include, but not be limited to, fixtures, outlets, switches, receptacles, motors, starters, panels, branch circuits, feeders, etc., which may have to be rerouted or relocated to enable the adjacent sections to fit together properly. The contractor is particularly cautioned to make allowance for rerouting electric lines in existing walls, floors, or ceilings which will be disturbed by cutting new openings for access, passage, equipment, ducts, lines or utilities.

In the event any wiring or equipment to be removed is in active use as determined by the Owner, the contractor shall provide temporary wiring as may be required to maintain such use until the permanent relocated wiring is installed.

5. PAYMENT

No separate payment shall be made for the various items, equipment, materials and work included in this section, unless specifically otherwise indicated. The cost of all work, unless specifically otherwise indicated, shall be included in the lump sum price bid for the item "Complete Vehicle Refueling Facility", as scheduled in the Proposal.

SECTION 17000

UNDERGROUND STORAGE TANK CLOSURE AND EXISTING
FUELING FACILITY REMOVAL

INDEX

<u>Number</u>	<u>Description</u>	<u>Page Number</u>
1.	SCOPE	1
2.	QUALIFICATIONS	1
3.	PERMITS	1
4.	DISPOSAL OF TANK BOTTOMS	2
5.	SITE ASSESSMENT	2
6.	BACKFILLING	2
7.	PAVING	2
8.	PAYMENT	2

SECTION 17000

UNDERGROUND STORAGE TANK CLOSURE AND EXISTING FUELING FACILITY REMOVAL

1. SCOPE

The contractor shall provide labor, supervision and equipment to uncover, ventilate, clean and prepare for disposal, exhume and dispose of one (1) 2000 gallon underground gasoline storage tank, one (1) 10,000 gallon underground gasoline storage, one (1) 8000 gallon underground diesel fuel storage tank, one (1) 550 gallon underground waste oil storage tank and one (1) 8000 gallon underground unknown petroleum product storage tank and all associated fill and vent piping. The contractor shall also provide labor, supervision and equipment to remove the owner's existing fueling facility including, but not limited to dispensers, canopy and supports, surface concrete, product piping, electrical lines, conduits, asphalt and product pumps. The contractor shall also provide labor, supervision and equipment to perform post excavation soil sampling as described herein. All work shall be performed in accordance with the drawings, Site Assessment Plan (Appendix A) and the Decommissioning Plan (Appendix B) and all applicable local, county, state and federal laws.

2. QUALIFICATIONS

All work performed on tank closure and existing fueling facility removal shall be done by or under the direct supervision of a person certified for tank closure activities by the NJDEPE in accordance with NJSA 58:10A-24.1-8.

Post excavation sampling and site assessment shall be performed by persons certified by the NJDEPE for subsurface evaluation in accordance with NJSA 58:10A-24.1-8.

Post excavation soil samples shall be analyzed by a NJDEPE certified testing laboratory.

No employee of the contractor or his subcontractor shall perform services for which the contractor's or subcontractor's firm is not certified to perform.

3. PERMITS

The owner will procure NJDEPE closure approval and site assessment approval. The owner will also procure the necessary Township Building Department permits.

4. DISPOSAL OF TANK BOTTOMS

Prior to removal of the existing fuel tanks, the Contractor shall transfer all remaining usable fuel to the newly installed underground storage tanks, the bottom six inches of fuel shall be disposed of by vacuuming out to bulk tanker or by DOT approved 17H drums. The containers shall be properly labeled and disposed of at a facility licensed to accept petroleum wastes. The resident Engineer shall be provided with a N.J. Uniform Hazardous Waste Manifest for each shipment.

5. SITE ASSESSMENT

The Contractor shall perform all post excavation soil sampling and laboratory analysis in accordance with Table 17-1 and the Site Assessment Plan found in Appendix A. The Contractor shall provide a Site Assessment Report detailing steps taken during the closure. The Report shall also contain all soil laboratory analysis results as well as Quality Assurance documentation. The Contractor shall submit six copies of Site Assessment Report to the Resident Engineer within twenty (20) days of the completion of closure activities. The Contractor shall complete the NJDEPE "Site Assessment Summary Form" and submit same to the Resident Engineer with the Site Assessment Report.

Table 17-1
SITE ASSESSMENT REQUIREMENTS

Tank No.	Tank Capacity Gallons	Tank Contents	Tank Dimensions	Post Ex. Samples Tank	Post Ex. Samples Piping	Analytical Parameters
01	2000	Gasoline	64"x12'-0"	4	1	VO + 10 * Lead
02	10,000	Gasoline	96"x26'-7"	7	4	VO + 10 * Lead
03	8000	Diesel	96"x21'-4"	6	4	TPHC ** VO + 10 *
04	550	Waste Oil	48"x6'-0"	2	0	VO + 10 * TPHC ** BN + 15 *** PCB's Priority Pollutant Metals

*EPA target compound list volatile organic or priority pollutant volatile organic scans with library search

*Analysis required on 25% of samples if TPHC level in sample exceeds 1000 ppm

**Total petroleum hydrocarbon analysis of soil using EPA method 418, modified for soil

***EPA target compound list Base Neutral or Priority Pollutant.. Base Neutral Scan with a library search

6. BACKFILLING

The contractor shall upon receiving soil test results indicating no contamination was found and upon approval by the engineer, backfill and compact the excavation with certified clean fill. Backfilling shall be performed in accordance with Section 2.03.12.

7. PAVING

Upon completion of the removal of the existing fueling facility and backfilling same, the Contractor shall pave all areas disturbed by the removal which were previously paved. The Contractor shall cut back pavement to straight edges and pave in accordance with Section 2.08.

8. PAYMENT

Cost for all work described in Division 17000 shall be included in the lump sum bid price as Item No. 3.

APPENDIX A

BRICK TOWNSHIP BOARD OF EDUCATION
TRANSPORTATION BUILDING
(NJDEPE UST NO. 0042220)

2,000-GALLON UNDERGROUND GASOLINE STORAGE TANK
10,000-GALLON UNDERGROUND GASOLINE STORAGE TANK
8,000-GALLON UNDERGROUND DIESEL FUEL STORAGE TANK
550-GALLON UNDERGROUND WASTE OIL STORAGE TANK

SITE ASSESSMENT PLAN

May 1993

Prepared By
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SITE ASSESSMENT PLAN
UNDERGROUND PETROLEUM STORAGE TANKS

I. GENERAL

This site assessment plan shall be performed to evaluate whether contamination is present in the tank excavation and in soils adjacent to piping runs which may be attributed to a failed underground tank and piping system. The site assessment will be carried out by a series of observations and measurements during the tank excavation and decommissioning operations, including, but not limited to, soil sampling if: (a) groundwater is present in the excavation with a product sheen (free product on groundwater); or (b) total petroleum hydrocarbon analysis shows contamination at the soil interface with the top of the water table (evidenced in samples taken from the excavation sidewalls or from soil borings).

II. TANK EXCAVATION

Remove enough soil needed to remove tank. While removing soil, special attention shall be taken to observe any product-stained soil or product odor.

Field tests shall be performed to determine which additional soils must be excavated.

III. FIELD TESTS

Two methods shall be used to facilitate a rapid determination of residual saturation of contamination in soil. These methods will be used only to distinguish between soils contaminated with free product (residual saturation) and soils that may be contaminated with dissolved product only. Neither method can be used to determine that a soil is free from product contamination. All soil with residual saturation will be removed from the excavation and managed according to the NJDEPE document called **Management of Excavated Soils**, which is attached hereto and made part of this Site Assessment Plan.

A. Method 1 - Soil/Water Agitation

A clear jar is partially filled with the soil/fill sample. Sufficient water is added to saturate the soil and bring the water to about 1 cm above the soil surface. The jar is sealed, and the sample is agitated by shaking. The jar is then opened to check for the presence of a sheen on the water surface. If a sheen is present, the soils have been contaminated by free product. If no sheen is present, the soils are either contaminated with dissolved product or are free of contamination. The presence of a sheen should be checked under various lighting conditions and backgrounds, since these factors will affect the visibility of the sheen. This method should only be used with products that exhibit visible sheens in water. This method should be supplemented with the Field Sorption Method.

B. Method 2 - Field Sorption Test

This method is used to sorb free product from contaminated soils. A sample of the soil/fill is pressed against a brown paper bag for about 10 seconds. Soils contaminated by free product will cause a "greasy" staining of the bag. The stain is more pronounced with fuel oils than for gasoline. Interference from soil moisture may result in water transfer to the bag, but generally the water does not spread on the bag as does fuel oil or gasoline.

IV. SOIL SAMPLES

Subsequent to excavation and the proper disposal of free product contaminated soils, the walls and floor of the excavation must be "screened" with field instruments in order to locate possible "hot spots" for post-excavation sampling. The field measurements may also be used to guide the further removal of contaminated soil from the excavation. If soil samples are taken at locations in the walls and/or floor of the excavation determined by field instruments, the samples are subject to the same documentation and analytical requirements as the samples taken for the site assessment requirement. Soil samples must be taken as soon as possible along the tank spine.

The tanks, all being cylindrical, require soil samples taken along the spine of the tank in intervals of 5' and one sample for every 15' of piping. The pipe sample(s) will be prejudiced toward elbows in the pipe run. All samples will be taken in the native soil below the bedding material. Two additional samples will be taken within one foot of reach of the two highest field readings. All of the soil samples will be discrete samples, taken within a 6" vertical interval. Composite samples will not be allowed. The samples will be taken with either a hand borer or with a stainless steel trowel, and the instrument will be decontaminated after each sample is taken.

Soil samples will be tested for the analytes in accordance with NJAC 7:26E as follows:

<u>UST CONTENTS</u>	<u>ANALYSIS REQUIRED</u>
1. Gasoline	VO+10 (EPA target compound list volatile organic or priority pollutant volatile organic scans with a library search)
	Lead (Lead analysis required if source was or is leaded gasoline)
2. Diesel	TPHE (1. Total Petroleum Hydrocarbon analysis of soil using EPA Method 418, modified for soil.
	2. VO+10 analysis required if TPHC level in soil exceeds 1000 RPM.)
3. Waste Oil and Unknown Hazardous Waste	VO+10 TPHC BN+15 (EPA Target Compound List Base Neutral or Priority Pollutant. Base Neutral scan with a library search)
	PCB's Priority Pollutant Metals

If all TPHC results are less than 100 ppm, it is understood that no additional analysis is required.

V. EVIDENCE OF RELEASE

If a release is confirmed by the methods described above, the Spill HOTLINE (609/984-3156) shall immediately be called and the spill

reported. If no release has been detected or confirmed, the approved closure plan can be followed for additional site assessment requirements.



AUG 17 1993

MANAGEMENT OF EXCAVATED SOILS

This document presents guidance on the management of excavated soils, and explains which soils are of concern to the Department when excavated. The amount and type of contaminants present in soils puts them in one of three categories: 1) Hazardous waste, 2) Non-hazardous waste (ID27) or 3) Soils that contain contaminants below regulatory concern.

SOIL CATEGORIES

1. Hazardous Waste

Soil is considered to be hazardous waste when it is contaminated above the non-hazardous waste limits (Attachment I). These soils must be managed as hazardous waste in accordance with N.J.A.C. 7:26-1 et seq.

2. Non-Hazardous Waste

Soil is considered to be non-hazardous waste (ID 27) when it contains contaminants that are above Category 3 soil limits (Attachment II) and are below the hazardous waste limits (Attachment I). For assistance in categorizing a soil, contact the Bureau of Hazardous Waste Regulation and Classification (609-292-8341). There are several options available for soils categorized as non-hazardous wastes.

- A. Disposal in the designated solid waste facility - Contact the Bureau of Solid Waste and Resource Recovery Planning (609-530-8599) within the Division of Solid Waste Management, or the appropriate county solid waste management official (Attachment III) for the appropriate facility;
- B. Use as landfill cover - Contact the Bureau of Landfill Engineering (609-530-8008) within the Division of Solid Waste Management;
- C. Treatment of soils prior to reuse - Contact the Bureau of Groundwater Pollution Abatement (609-292-8427) within the Division of Water Resources, or;
- D. All other soil reuse options - Contact the Office of Recycling (609-530-4001) within the Division of Solid Waste Management.

3. Soils That Contain Contaminants Below Regulatory Concern

Soils that contain contaminants at levels that are below the Category 3 soil limits do not need to be classified and are, thus, suitable for use without treatment or prior approval. There are, however, certain conditions or circumstances that apply to those soils that are suitable for use:

- A. Pinelands Preservation Area District - Soils generated outside the Pinelands Preservation Area District that contain contaminants at or below Category 3 levels shall not be moved from the site of generation into the Pinelands Preservation Area District, unless the soils are at or are below the receiving site's background levels. Soils generated in the Pinelands Preservation Area District that exceed background levels may not remain in the Pinelands Preservation Area District, but may be used elsewhere.
- B. Objectionable Odors - Soils having objectionable odors shall not be used in residential areas or other locations where the public would be exposed. Specifically, the soils to be used must not violate the air pollution rules, N.J.A.C. 7:28-1 et seq.:
- C. Regulatory Compliance - the soils must be used in accordance with all applicable federal, state and local regulations,:
- D. Allowable Storage Time - The soils should not be stockpiled for more than six months from the time of excavation, and;
- E. Soil Used As Fill - The use of soil mixed with other material (bricks, cement, asphalt, etc.) as fill shall follow the procedures set forth in the Division of Solid Waste Management's January 12, 1989 correspondence (Attachment IV).

Responsibility

It is the responsibility of the owner/operator to determine if soils are contaminated with any of the chemicals listed in Attachment II. Testing of soils from areas where contamination is unlikely (i.e. residential areas, etc.) is at the discretion of the generator. The possibility that contamination exists is greater in, but is not limited to, soils originating from industrial sites, discharge areas, potentially contaminated (PC) fills and tank areas. Therefore, the Department recommends that owner/operators considering these soils for use first perform analytical testing and retain copies of the results.

Recommended Testing Protocol for Category 3 Soils

For those owner/operators who believe that their soil may be contaminated or who are excavating soil to comply with the Department's requirements, the Department recommends the following minimum sampling and testing protocol:

1. Sampling

The Department recommends the following sampling strategy. For all samples, except those collected for Total Volatile Organic Compounds (VOC) analyses, one sample should be taken for every twenty cubic yards. Up to five samples can be composited per analysis. Thus, one analysis will be conducted for each 100 cubic yards of soil. For Total VOC analyses, one discrete subsurface sample should be taken for every 50 cubic yards of soil. Fill the container so that there is no head space. Immediately put it in ice and make sure the chilled sample is received by a DEP certified laboratory within 24 hours. There is no compositing of volatile organic samples.

2. Testing

When the owner/operator and/or Department has determined the need for testing, the following minimum analyses should be done (Attachment V):

- A. If the origin and types of contaminants are known (such as soil from the removal of a gasoline tank) and there is no concern for potentially contaminated fill (Attachment VI), test the soil only for the known contaminant(s). If gasoline is the contaminant of concern, test for both total petroleum hydrocarbons and Total Volatile Organic Compounds (By GC Analysis). If other virgin fuel oils are the contaminant(s) of concern, test only for petroleum hydrocarbons.
- B. If potentially contaminated fill is present and the soil will be used either off-site or on-site less than two feet below the surface, the soil should be analyzed for Priority Pollutant Metals in addition to the contaminant of concern.
- C. If the source of contamination is unknown, then analyses need to be performed for: 1) Total Petroleum Hydrocarbons, 2) Priority Pollutant Metals and 3) Volatile Organic Compounds (VOC) using a Photoionization Detector/Organic Vapor Analyzer (PID/OVA). If PID/OVA screening determines that the VOC level is above background or if PID/OVA equipment is unavailable, then Total Volatile Organic Compound analyses should be performed.

Disclaimer

Soils exceeding Category 3 soil limits do not meet the definition of Category 3 soils and, therefore, must not be used without treatment or prior approval.

Persons excavating soil having contamination levels that are both above and below Category 3 soil limits should segregate the soil into piles based on contamination levels. This would expedite reuse of Category 3 soils.

The Department reserves the right to require testing, or conduct testing on its own. Should soils be considered unsuitable by the Department after their use, the generator of the soil is responsible for its proper removal and disposal, as well as for the remediation of all consequences of the use. Use of soils shall not relieve any person from obtaining any and all permits that are required from any federal, state, county or local agency. This document does not grant permission to fill or alter floodplain areas, riparian lands, freshwater wetlands or surface water runoff conditions without the appropriate approvals.

PR86:nb

MAXIMUM LIMITS FOR NONHAZARDOUS WASTES

Below are the NJDEP limits for analytical results performed in support of waste classifications. These limits are current as of 5/1/90, and represent the maximum concentrations allowable for nonhazardous wastes in New Jersey. The tests listed below are the minimum analytical requirements for contaminated soils when a letter of classification is required. Other types of wastes may require different, and possibly more extensive analyses. Additional analytical testing may be necessary for classification of soils, depending on the individual circumstances of each situation. For further information contact the Waste Classification Program at (609) 292-8341.

TEST	REGULATORY LIMITS (Nonhazardous limit)
E.P. Toxicity (N.J.A.C. 7:26-8.12)	As < 5.0 mg/l Ba <100 mg/l Cd <1.0 mg/l Cr <5.0 mg/l Pb <5.0 mg/l Hg <0.2 mg/l Se <1.0 mg/l Ag <5.0 mg/l Endrin <0.02mg/l Lindane <0.4 mg/l Methoxychlor <10.0 mg/l Toxaphene <0.5 mg/l 2,4-D <10.0 mg/l 2,4,5-TP <1.0 mg/l
Ignitability--flash point performed on free liquids (N.J.A.C.7:26-8.9)	=>140 ° F
Corrosivity--performed on free liquids only (N.J.A.C. 7:26-8.10)	pH >2 and <12.5
Total PCBs*(N.J.A.C. 7:26-8.20(b))	<50 mg/kg

* The management of PCB containing waste also is regulated under the Federal TSCA regulations. For information on the TSCA rules, call (202) 554-1404.

NJDEP GUIDELINE LIMITS
(Hazardous limits)

Reactivity
(Applied to N.J.A.C.
7:26-8.11(a)5.)

reactive
sulfide <500 mg/kg

reactive
cyanide <250 mg/kg

Total Petroleum
Hydrocarbon Content (from spill
of nonlisted oil)
(Applied to N.J.A.C.
7:26-8.13(b)5.A.)

<30,000 mg/kg

Except for those wastes identified in N.J.A.C. 7:26-8.1(a)iii(1) through (5), and N.J.A.C. 7:26-8.2, the presence of detectable quantities of listed hazardous wastes (N.J.A.C. 7:26-8.13, 8.14, 8.15) makes a mixture of these and solid waste automatically hazardous, regardless of concentration (see N.J.A.C. 7:26-8.1(a)2.iii). Wastes containing hazardous constituents listed in N.J.A.C. 7:26-8.16 require a "case by case" determination of their status in accordance with N.J.A.C. 7:26-8.6.

PR28:kww

Attachment II

CATEGORY 3 SOIL LIMITS

PARAMETER	MAXIMUM ALLOWABLE LEVEL (ppm)
Total petroleum hydrocarbons (TPHC)	100
Polycyclic Aromatic Hydrocarbons (PAH)	10
Priority Pollutants:	
Base neutrals (BN)	10
DDT	1
Chlordane	1
Polychlorinated biphenyls (PCB)	1
Volatile organics	1
Cyanide	12
Priority Pollutant Metals	
Antimony	10
Arsenic	20
Barium	400
Beryllium	1
Cadmium	3
Chromium	100
Copper	170
Lead	250
Nickel	100
Mercury	1
Molybendum	1
Selenium	4
Silver	5
Thallium	1
Vanadium	100
Zinc	350

Attachment III
LIST OF DISTRICT (C.326) SOLID WASTE MANAGEMENT OFFICIALS - APRIL 1990

ATLANTIC

Mr. Jim Rutala
Solid Waste Coordinator
Atlantic Co. Utilities Authy.
1701 Absecon Boulevard
Atlantic City, NJ 08401
(609) 348-3700

CAMDEN

Mr. Joseph Gilson
Camden Co. Dept. of S. W. Mgt.
East Building, 3rd Floor
6981 No. Park Drive
Pennsauken NJ 08109
(609) 756-7875

ESSEX

Mr. Martin Lund
Essex Co. Div. S.W. Mgt.
Rm. 314 A - 465 Dr. Martin
Luther King, Jr. Blvd.
Newark, NJ 07102
(201) 621-6588

HUDSON

Mr. Al Fiore, Executive Dir.
Hudson Co. Imp. Authority
601 Pavonia Avenue
Jersey City, NJ 07306
(201) 795-4555

MIDDLESEX

Mr. Robert McCarthy, Dir.
Middlesex Co. Dept. of
Solid Waste Mgt. Programs
100 Bayard Street
New Brunswick, NJ 08901
(201) 745-4170

OCEAN

Mr. Ernie Ruhlwein
Solid Waste Coordinator
Ocean Co. Planning Board
Court House Annex C.W. 2191
Toms River, NJ 08753
(201) 929-2034

SOMERSET

Mr. John Korensky, S.W. Mgt.
Office of Solid Waste Mgt.
P. O. Box 3000
Somerville, N.J. 08876
(201) 231-7031

WARREN

Mr. Russell Miles, Pln. Dir.
Warren Co. Planning Board
County Administration Bldg.
Salvadora, N.J. 07823
(201) 475-6331 [Bart Carhart-(201) 453-2174]

Bergen

Mr. James Battaglia, Director
Solid Waste Mgt. Div. of Bergen
County Util. Auth.
Foot of Mahrhof Road
Little Ferry, NJ 07643
(201) 841-2532

CAPE MAY

Mr. Thomas Brocovich
Solid Waste Manager
Cape May Mun. Util. Auth.
P.O. Box 810
Cape May Court House, NJ 08210
(609) 483-9026

GLoucester

Robert Scalpino
Gloucester Co. Planning Dept.
County Building
Delaware Drive
Clayton, NJ 08312
(609) 863-6661

HUNTERDON

Ms. Teresa Martin, Director
Solid Waste-Recycling Dept.
County of Hunterdon
Co. Adm. Bldg. 1 East Main St.
Flemington, NJ 08822
(201) 788-1110

MONMOUTH

Mr. Lawrence Eazyanga
Solid Waste Coordinator
Monmouth Co. Planning Board
Hall of Records Annex Box 1235
Freehold, N. J. 07728-1235
(201) 431-7460

PASSAIC

Mr. James D. Rogers
Planning Director
Passaic County Utilities Authy.
Admin. Bldg., 317 Penna. Ave.
Paterson, NJ 07503
(201) 881-4490

SUSSEX

Mr. Fred Suljic, Planning Dir.
Dept. Plan. Conser. & Eco. Dev.
Sussex County, 55-57 High St.
Newton, New Jersey 07868
(201) 383-2820

BURLINGTON

Mr. Robert Siskins
Supv., Off. of Waste Mgt.
Burlington Co. Health Dept.
49 Rancocas Road
Mount Holly, NJ 08060
(609) 499-1001

CUMBERLAND

Mr. Larry Klock
Solid Waste Coord.
Cumberland Co. Improv. Auth.
2 West Vine Street
Millville, NJ 08332
(609) 825-3700

H.M.D.C.

Mr. Thomas Martarano
Director of Solid Waste
Hackensack Meadows Dev. Comm.
One DeKorte Park Plaza
Lyndhurst, NJ 07071
(201) 460-1700

MERCER

Mr. Lauren Moore
S.W. Supervisor
Mercer Co. Improvement Auth.
1589 Lambertson Rd.
Trenton, NJ 08611
(609) 695-1200

MORRIS

Mr. Glenn Schweizer
Solid Waste Coordinator
Morris Co. Mun. Utilities Auth.
Courthouse, CN900
Morristown, NJ 07960
(201) 285-8390

SALAM

Mr. William Godfrey
Salem Co. Utilities Auth.
P. O. 674
McKilip Road.
Alloway, N. J. 08001-0674
(609) 835-7900

UNION

Mr. Joseph Kasar, Director
Union County Utilities Auth.
24-52 Highway Avenue
Elizabeth, N.J. 07207
(201) 351-8770

PORT AUTHORITY OF N.Y. & N.J.

Mr. Richard Cronis
Port Authority of N.Y. & N.J.
One World Trade Center
New York, N.Y. 10048
(201) - 466-8882

Let's protect our earth



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF SOLID WASTE MANAGEMENT
CN 414, Trenton, N.J. 08625-0414
Fax # (609) 394-8626

John V. Czapor
Director

JAN 12 1989

Mary T. Sheil
Deputy Director

TO WHOM IT MAY CONCERN:

RE: Requirements for Clean Fill Determination

"Clean fill" as defined at N.J.A.C. 7:26-1.4 means an uncontaminated, nonwater soluble, nondecomposable, inert solid such as rock, soil, gravel, concrete, glass and/or clay or ceramic products.

In light of the declining availability of remaining landfill capacity, the Department has authorized, in several instances, the use of additional source separated inert solids such as brick, cement, and on a limited basis, asphalt, as clean fill material at construction sites or for road subgrade material. The use of these materials as clean fill, in the Department's opinion, has virtually the same impact to the environment as would the use of earth, gravel, or rock materials which have traditionally been used for clean fill by developers in construction related applications.

The Division of Solid Waste Management will entertain requests for use of these materials under a "recyclable/reusable waste" classification, thereby waiving our regulatory authority under the New Jersey Solid Waste Disposal Regulations, as set forth at N.J.A.C. 7:26-1.1, provided the following criteria are met:

1. The material proposed for use as clean fill shall be source separated at its point of generation from all other waste materials including, but not limited to, wood, fiberboard, insulation, asbestos, paper, metal, aluminum, piping, vegetative waste, etc. Material which contains any component subject to biodegradation, oxidation, leachability, or other physical or chemical changes upon exposure to the environment shall not be viewed as acceptable clean fill material.

2. To help minimize voids and increase compactability of the fill material, all solid objects shall be of manageable size, approximately 8 inches (or less) in diameter. The use of large slabs as fill adversely affects workability of the material, promotes uneven settlement, and furthermore may create voids providing harborage for rodents and other vectors. To further minimize voids it is suggested that clean earth be intermixed with the clean fill material at a ratio suitable to meet the standards specified in the appropriate construction codes. The Bureau of Resource Recovery makes no claim as to the suitability of use of this material from an engineering standpoint.
3. The material to be used as clean fill shall come from a controlled, defined source and be free from contamination by contact with any toxic or hazardous substances.
4. The use of the clean fill material must be for a dedicated project for a defined period of time and a limited scope.
5. The project must have local support, approval, or waiver.
6. The appropriate County shall be informed of the activity to allow for inspection of the project.
7. The appropriate local Soil Conservation District office shall be notified and make a determination as to whether a Soil Erosion and Sediment Control Plan will be required for the proposed activity.
8. The Department's decision to exempt the activity of recycling/reuse of clean fill from the Solid Waste Regulations shall not relieve any person engaging in such activity from having to obtain other permits that may be required from this or any other state, county or local agency, nor shall it be construed as granting permission to fill or alter floodplain areas, riparian lands, freshwater wetlands, or impair surface water run-off conditions.
9. No aspect of the operation shall result in the pollution of the surface or groundwaters of this State nor shall it pose a substantial or material threat to the public health, safety, or welfare.

As stated in Item Number 2 above, the suitability of use of clean fill material from an engineering perspective is not an activity which is regulated by our office; however, notification to the Department, in writing, prior to engaging in an activity which involves the recycling of select waste as clean fill is required. This will provide the Division an opportunity to review your proposal and make a determination of applicability and/or conformance with the New Jersey Solid Waste Disposal Regulations. Violation of the Solid Waste Management Act or any code, rule, or regulation promulgated pursuant to the Act may result in loss of operating authority and assessment of penalties pursuant to N.J.S.A. 13:1E-12.

A notification to the Department shall consist of a comprehensive description of the proposed activity which includes the following information:

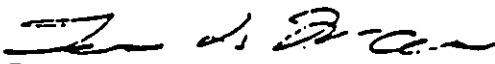
1. A description of the origin of the waste material including address, former use of material, type of material and quantity;
2. Description of processing activities required to convert the select waste material into clean fill; i.e. crushing, grinding, cleaning, etc.;
3. Address of fill site including lot, block, and property owner;
4. Dimensions of the area to be filled with recycled clean fill;
5. Description of planned land use for area being filled;
6. A schedule of project activities; and
7. Accompanying the description should be a written statement from the land owner which certifies that he/she is fully aware of the proposed clean fill activities and has no objection to the use of this property for said purposes.

Upon receiving the information described above, my staff will endeavor to provide a written response, in a timely manner, which indicates whether or not the proposed activity satisfies the Department's criteria for exemption from our solid waste facility permitting requirements as a "recycling activity" as provided at N.J.A.C. 7:26-1.1.

Hopefully, this letter will serve to clarify the policy the Bureau of Resource Recovery has adopted regarding the use of certain waste materials as clean fill.

Should you have any further questions, feel free to contact Brian Pettit of my staff at (609) 984-2965.

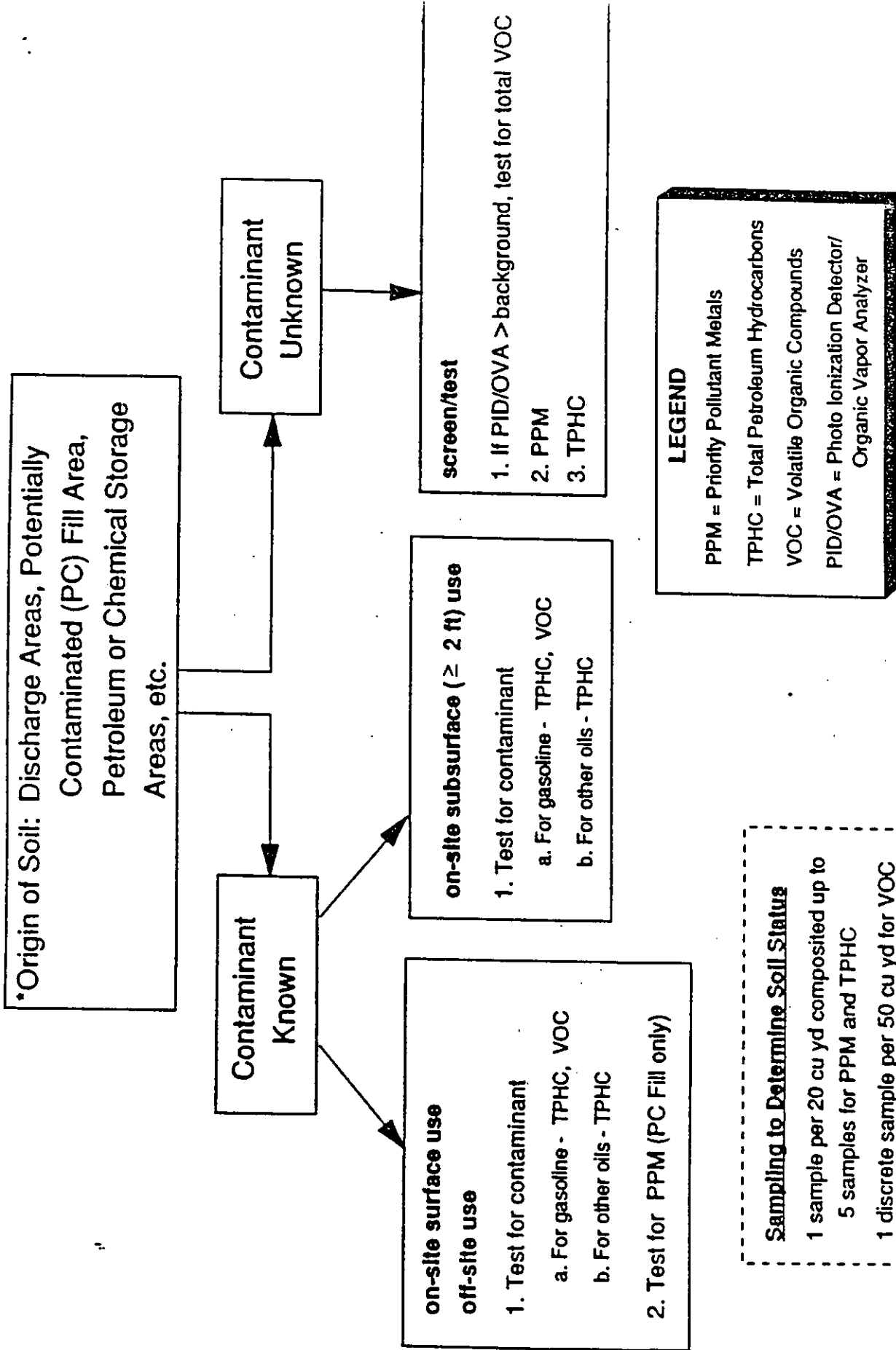
Sincerely,



Terence D. McAdams
Acting Chief, Bureau of
Resource Recovery

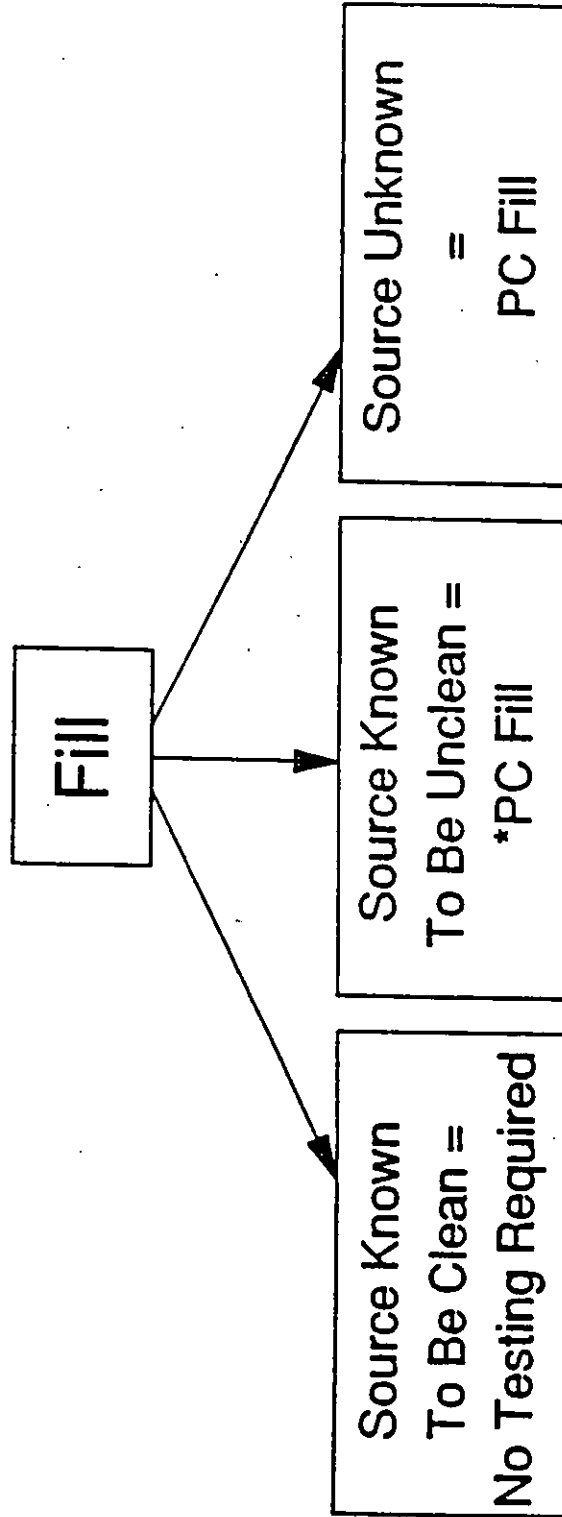
BP:kc 1/89

TESTING PROTOCOL CATEGORY 3 SOILS



*All other soils need to be tested only if contamination is suspected.

TO DETERMINE FILL STATUS



* PC Fill = Potentially Contaminated Fill

APPENDIX 2

GROUND WATER MONITORING FOR THE SITE ASSESSMENT REQUIREMENT

Ground water monitoring wells must be installed, sampled and analyzed at any facility where the tank(s) being closed have stored gasoline, kerosene, and/or jet fuel. Likewise, any other facility, storing any other petroleum product, where site specific factors indicate a known or potential impact of soil contamination on ground water will be required to install, sample and analyze monitoring wells for tank closure as well.

The Appendices following contain information which is relevant to the ground water monitoring requirement, as follows:

Appendix 2A: Specifications for monitoring wells

Appendix 2B: Sample collection and analytical methods

Appendix 2C: Quality Assurance/Quality Control

Appendix 2D: Qualifications for Ground Water Consultants

APPENDIX B

BRICK TOWNSHIP BOARD OF EDUCATION
TRANSPORTATION BUILDING
(NJDEPE UST NO. 0042220)

2,000-GALLON UNDERGROUND GASOLINE STORAGE TANK
10,000-GALLON UNDERGROUND GASOLINE STORAGE TANK
8,000-GALLON UNDERGROUND DIESEL FUEL STORAGE TANK
550-GALLON UNDERGROUND WASTE OIL STORAGE TANK

DECOMMISSIONING PLAN

May, 1993

Prepared By
The Brick Township Municipal Utilities Authority
1551 Highway 88 West
Brick, New Jersey 08724
(908) 458-7000 FAX: (908) 458-7725

Tariq M.S. Siddiqui, P.E.
Director of Engineering
NJDEPE UST Certification
No. E0002519

REMOVAL AND DISPOSAL OF USED UNDERGROUND PETROLEUM STORAGE TANKS

SECTION 1 - GENERAL

1.1 INTRODUCTION

Underground petroleum storage systems that are no longer needed or suitable for product storage must be properly disposed in place or removed in order to avoid future safety or environmental hazards. Because of the nature of the flammable or combustible liquids that are stored in these tanks, hazardous conditions may arise in the work area during removal and subsequent handling of tanks. For this reason, all personnel involved in the procedures outlined in this closure plan should be familiar with the potential hazards, and be knowledgeable in the appropriate health and safety measures needed to ensure a safe working environment.

1.2 SCOPE AND PURPOSE

1.2.1 This closure plan is a detailed procedure for the removal, storage, and off-site disposal of underground storage tank systems that have contained petroleum products. In general, it outlines requirements, procedures, and operating conditions to be followed by the contractor who will be performing the closure. All such work must be accomplished in accordance with federal, state, and local requirements, as well as accepted safety standards.

1.2.2 All applicable permits will be obtained by the owner prior to beginning any work. Contractors, subcontractors, and their employees responsible for tank removal shall be familiar with: (a) all applicable safety rules and regulations; (b) the use of equipment and procedures for testing and vapor-freeing tanks; (c) the handling and disposal of the types of wastes likely to be encountered; and (d) the applicable sections of the publications referenced in 1.4.

1.3 SPECIAL PRECAUTIONS

During the course of underground storage tank removal or in-place disposal, workers may be exposed to petroleum hydrocarbon liquids, vapors, or wastes. The precautions in 1.3.1 and 1.3.2 should be observed by all individuals engaged in the procedures discussed in this recommended practice.

1.3.1 Toxicity Considerations: Petroleum Substances

Users should be aware of appropriate health precautions. When high concentrations of petroleum hydrocarbon vapors are inhaled, symptoms of intoxication may result. These symptoms, ranging from simple dizziness to excitement or unconsciousness, are similar to those produced by alcohol or anesthetic gases. If such effects occur, the individual should be removed to fresh air. For minor effects of exposure, breathing fresh air or oxygen result in rapid recovery. If breathing has stopped, artificial respiration should be applied promptly. Medical attention should be obtained as soon as possible. Paragraphs 1.3.1.1 and 1.3.1.2 contain special toxicity considerations for benzene and tetraethyl lead, which may be present in petroleum products or wastes found in underground storage tanks. Care should be exercised to minimize exposure to these substances when they are present during the handling of used underground petroleum storage tanks.

W A R N I N G: Tests have shown that prolonged or repeated exposure to some petroleum substances, in liquid or vapor form, may cause serious illness, including cancer, in laboratory animals. Although the significance of these test results to human health is not fully understood, exposure to petroleum substances should be minimized. The following health precautions are suggested:

- a. Avoid skin contact and inhaling vapors.
- b. Keep petroleum liquids away from eyes, skin, and mouth; they can be harmful or fatal if inhaled, absorbed through the skin, or ingested.
- c. Use soap and water or waterless hand cleaner to remove any petroleum product that contacts skin. Do not use gasoline or similar solvents to remove oil and grease from skin.
- d. Promptly wash petroleum-soaked clothes and avoid using soaked leather goods. Properly dispose of rags.
- e. Keep work areas clean and well-ventilated.
- f. Clean up spills promptly.

1.3.1.1 Benzene

High occupational exposures to benzene have been associated with various human blood disorders, including an increased risk of leukemia. Very high levels have also been known to affect the central nervous

system. Benzene administered by mouth has induced cancer in laboratory animals in long-term tests. Benzene is rapidly absorbed through the skin. The American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV) for benzene is 1-part-per-million time-weighted average. The Occupational Safety and Health Administration (OSHA) legal airborne permissible exposure limit (PEL) is 1 ppm averaged over an 8-hour workshift, and 5 ppm which should not be exceeded in any 10-minute period. The latest OSHA Occupational Safety and Health Standards should be consulted to determine the current PEL.

1.3.1.2 Tetraethyl Lead

This organic form of lead can cause diseases of the central and peripheral nervous system, the kidney and the blood. Skin absorption of this compound is a major route of entry into the body. The ACGIH recommended airborne exposure limit is 0.1 mg/m³ averaged over an 8-hour workshift. The OSHA legal airborne permissible exposure limit (PEL) is 0.075 mg/m³ averaged over an 8-hour workshift. The latest OSHA Occupational Safety and Health Standards should be consulted to determine the current PEL.

1.3.2 Flammability and Combustibility Considerations

1.3.2.1 Flammable or combustible vapors are likely to be present in the work area. The concentration of vapors in the tank, the excavation, or the work area may reach the flammable (explosive) range before venting is completed and a safe atmosphere is reached. Therefore, precautions shall be taken to: (a) eliminate all potential sources of ignition from the area (for example, smoking materials, nonexplosion-proof electrical and internal combustion equipment); (b) prevent the discharge of static electricity during venting of flammable vapors; and (c) prevent the accumulation of vapors at ground level. Refer to API Publication 2015 and Recommended Practice 2003 for general precautionary measures to follow during the vapor-freeing procedure.

1.3.2.2 A combustible gas indicator (CGI) should be used to check for hazardous vapor concentrations (see 3.3). All open flame and spark-producing equipment within the vapor hazard area should be shut down. Electrical equipment (for example, pumps and portable hand tools) used in the area must be explosion-proof in accordance with NFPA 70B

Class I, Division I, Group D, or otherwise approved for use in potentially explosive atmospheres.

1.4 REFERENCED PUBLICATIONS

Portions of the following documents contain information regarding various engineering and safety procedures that may be applicable to underground storage tank removal or disposal:

API

Bull. 1628	Underground Spill Cleanup Manual
RP 1631	Interior Lining of Underground Storage Tanks
PR 2003	Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents
Publ. 2015	Cleaning Petroleum Storage Tanks
Publ. 2015A	A Guide for Controlling the Lead Hazard Associated with Tank Entry and Cleaning (Supplement to API Publ. 2015)
Publ. 2217	Guidelines for Confined Space Work in the Petroleum Industry
Publ. 2219	Safe Operating Guidelines for Vacuum Trucks in Petroleum Service

NFPA (National Fire Protection Association)

327	Standard Procedure for Cleaning or Safeguarding Small Tanks and Containers
70B	Electrical Equipment Maintenance

OSHA (Occupational Safety and Health Administration)

Occupational Safety and Health Standards (29 CFR 1910.10000)

EPA (U.S. Environmental Protection Agency)

General Regulations for Hazardous Waste Management (40 CFR 260)
Regulations for Identifying Hazardous Waste (40 CFR 261)
Regulations for Hazardous Waste Generators (40 CFR 262)
Underground Storage Tanks Regulations (40 CFR 280.11, 280.22)

SECTION 2 - TEMPORARILY OUT OF SERVICE

2.1 APPLICABILITY

Underground petroleum storage tank systems are considered temporarily out of service if they are: (a) idle but will be returned to service within one year; (b) are awaiting abandonment in place; or (c) are awaiting removal.

2.2 SECURING TANK SYSTEMS

Tanks temporarily out of service must be properly secured for the period they will be out of service. Tanks may be considered properly secured if processed as follows:

- a. Observe all special precautions described in 1.3 through 1.3.2.2.
- b. Remove stored product from the tank using one of the following methods:
 1. Drain all product lines into the tank; then remove all liquids from the tank.
 2. Remove all flammable or combustible liquids with the exception of a sufficient quantity (approximately four inches) to assure a saturated vapor space.
 3. When high water table or flooding conditions exist, remove all stored liquid and ballast the tank by filling with water.
- c. Cap the fill pipe, gauge pipe, tank truck vapor recovery fitting, and vapor return. Secure the tank against tampering.
- d. Cap the product lines at the product use point.
- e. Leave the vent line open.

SECTION 3 - REMOVAL OF UNDERGROUND TANKS

3.1 PREPARATION

3.1.1 Observe the special safety precautions in 1.3 through 1.3.2.2.

3.1.2 Drain product piping into the tank, being careful to avoid any spillage. Remove product piping.

3.1.3 Remove liquids and residues from the tank by using explosion-proof or air-driven pumps. Pump motors and suction hoses shall be bonded to the tank or otherwise grounded to prevent electrostatic ignition hazards. It may be necessary to use a hand pump to remove the last few inches of liquid from the bottom of the tank. If a vacuum truck is used for removal of liquids or residues, the area of operation for the vacuum truck shall be vapor-free. The truck should be located upwind from the tank and outside the path of probable vapor travel. The vacuum pump exhaust gases should be discharged through a hose of adequate size and length downwind of the truck and tank area. See API Publication 2219 for vacuum truck operating and safety practices.

3.1.4 The federal Resource Conservation and Recovery Act (RCRA) (40 CFR 260-265) places restrictions on disposal of certain residues that may be present in some underground storage tanks. All liquids and residues removed from the tank should be handled in accordance with appropriate federal, state, and local regulations.

3.1.5 Excavate to the top of tank.

3.1.6 Remove the fill pipe, gauge pipe, and other tank fixtures. Remove the drop tube, except when it is planned to vapor-free the tank by using an eductor as in 3.2.5. Cap or remove all non-product lines, except the vent line. The vent line should remain connected until the tank is purged. Temporarily plug all other tank openings so that all vapors will exit through the vent line during the vapor-freeing process.

3.2 PURGING

3.2.1 Remove flammable vapors by one of the methods described in 3.2.2 through 3.2.7, or as required by local codes. These methods provide a means for temporary vapor-freeing of the tank atmosphere.

However, it is important to recognize that the tank may continue to be a source of flammable vapors even after following the vapor-freeing procedures described in 3.2.2 through 3.2.7. For this reason, caution shall always be exercised when handling or working around tanks that have stored flammable or combustible liquids. Before initiating work in the tank area or on the tank, a combustible gas indicator shall be used to assess vapor concentrations in the tank and work area.

3.2.2 Vent all vapors from the tank at a minimum height of 12 feet above grade and 3 feet above any adjacent roof lines until the tank is purged of flammable vapors. The work area shall be free from sources of ignition (see 1.3.2).

3.2.3 Flammable and combustible vapors may be purged with an inert gas such as carbon dioxide (CO_2) or nitrogen (N_2). This method should not be utilized if the tank is to be entered for any reason, as the tank atmosphere will be oxygen-deficient. The inert gas should be introduced through a single tank opening at a point near the bottom of the tank at the end of the tank opposite the vent. When inert gases are used, they should be introduced under low pressure to avoid the generation of static electricity. When using CO_2 or N_2 , pressures in the tank should not exceed 5 pounds per square inch gauge.

C A U T I O N: The process of introducing compressed gases into the tank may create a potential ignition hazard as the result of the development of static electrical charges. The discharging device shall therefore be grounded. Explosions have resulted from the discharging of CO_2 fire extinguishers into tanks containing a flammable vapor-air mixture. CO_2 extinguishers should not be used for inerting flammable atmospheres.

3.2.4 If the method described in 3.2.3 is not practical, the vapors in the tank may be displaced by adding solid carbon dioxide (dry ice) to the tank in the amount of at least 1.5 pounds per 100 gallons of tank capacity. The dry ice should be crushed and distributed evenly over the greatest possible area in the tank to promote rapid evaporation. As the dry ice vaporizes, flammable vapors will flow out of the tank and may surround the area. Therefore, where practical, plug all tank openings except the vent after introducing the solid CO_2 and

continue to observe all normal safety precautions regarding flammable or combustible vapors. Make sure that all of the dry ice has evaporated before proceeding.

C A U T I O N: Skin contact with dry ice may produce burns.

3.2.5 Flammable vapors may be exhausted from the tank by one of two methods of tank ventilation listed below:

a. Ventilation using an eductor-type air mover usually driven by compressed air is illustrated in Figure 1. The eductor-type air mover must be properly bonded to prevent the generation and discharge of static electricity. When using this method, the fill (drop) tube should remain in place to ensure ventilation at the bottom of the tank. Tanks equipped with fill (drop) tubes that are not removable should be purged by this method. An eductor extension shall be used to discharge vapors a minimum of 12 feet above grade.

b. Ventilation with a diffused air blower is illustrated in figure 2. When using this purging method, it is imperative that the air-diffusing pipe is properly bonded to prevent the discharge of a spark. Fill (drop) tubes must be removed to allow proper diffusion of the air in the tank. Air supply should be from a compressor that has been checked to ensure a clean air supply and is free from volatile vapors. Air pressure in the tank must not exceed 5 pounds per square inch gauge.

3.3 TESTING

3.3.1 The tank atmosphere and the excavation area should be regularly tested for flammable or combustible vapor concentrations until the tank is removed from both the excavation and the site. Such tests shall be made with a combustible gas indicator which is properly calibrated according to the manufacturer's instructions (typically on pentane or hexane in air), and which is thoroughly checked and maintained in accordance with the manufacturer's instructions. Persons responsible for testing shall be completely familiar with the use of the instrument and the interpretation of the instrument's readings.

3.3.2 The tank vapor space is to be tested by placing the combustible gas indicator probe into the fill opening with the drop tube removed. Readings shall be taken at the bottom, middle, and upper portions of the tank, and the instrument should be cleared after each reading. Liquid product must not enter the probe. Readings of 20

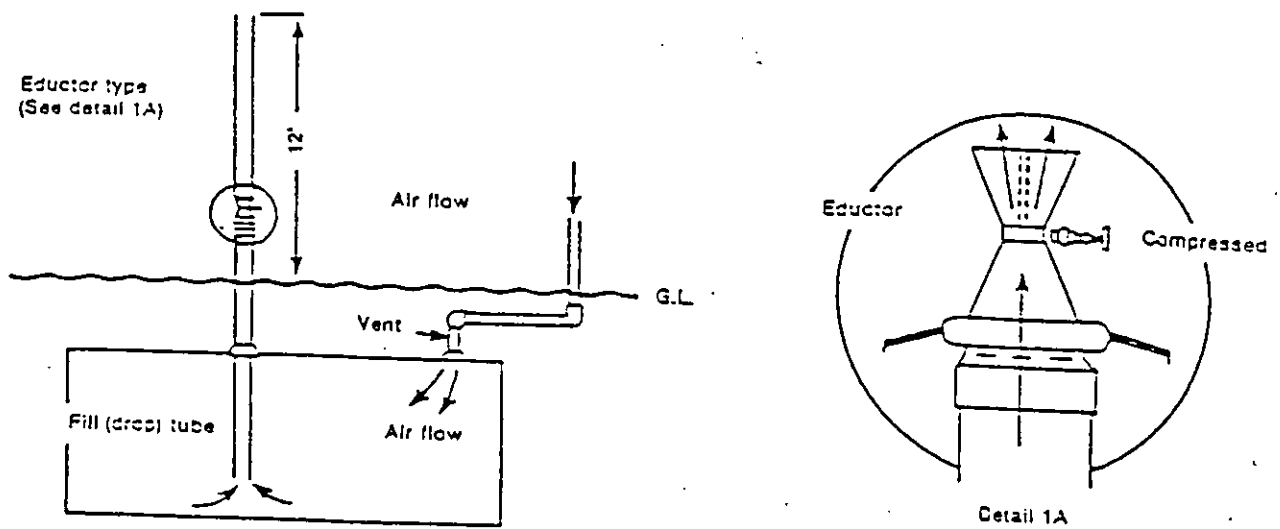
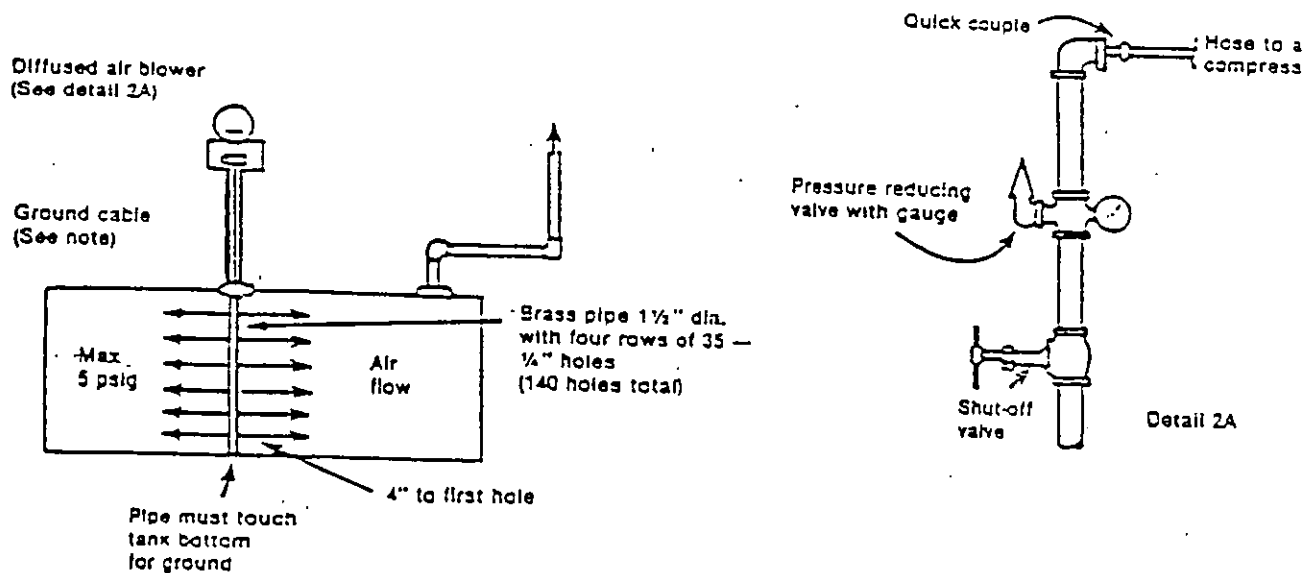


Figure 1—Eductor-Type Air Mover



Note: Ground cable brazed to pipe must be clamped to fill pipe. Use 12 gauge ground wire from fill pipe to water pipe or ground rod.

Figure 2—Diffused Air Blower

percent or less of the lower flammable limit shall be obtained before the tank is considered safe for removal from the ground.

3.3.3 Combustible gas indicator readings may be misleading where the tank atmosphere contains less than 5 percent by volume oxygen, as in a tank vapor-freed with CO₂, N₂, or another inert gas. In general, readings in oxygen-deficient atmospheres will be on the high, or safe, side. It may be desirable to use an oxygen indicator to assess the oxygen concentration.

3.4 REMOVAL

3.4.1 After the tank has been freed of vapors and before it is removed from the excavation, plug or cap all accessible holes. One plug should have a 1/8 inch vent hole to prevent the tank from being subjected to excessive differential pressure caused by temperature changes. The tank should always be positioned with this vent plug on top of the tank during subsequent transport and storage.

3.4.2 Excavate around the tank to uncover it for removal. Remove the tank from the excavation and place it on a level surface. Use wood blocks to prevent movement of the tank after removal and prior to loading on a truck for transportation. Use screwed (boiler) plugs to plug any corrosion holes in the tank shell.

3.4.3 When removing an existing underground storage system, contaminated backfill may be encountered. The contamination can be due to minor spills and drips during previous operation of the facility, from drips and minor spills that may occur during removal, or from tank failure. Contaminated backfill may be a potential safety and environmental hazard. Any product discharge shall be immediately reported to the NJDEPE BUST Hotline (1-800-722-tank), the Ocean County Board of Health (341-9700), and the Brick Township Bureau of Fire Safety (477-4700). See API Bulletin 1628 for further information. Procedures set forth in the accompanying Site Assessment Plan shall be followed.

3.4.4 Tanks should be labeled after removal from the ground but prior to removal from the site. Regardless of the condition of the tank, the label should contain a warning against certain types of reuse. The former contents and present vapor state of each tank, including vapor-freeing treatment and date, should also be indicated. The label

should be similar to the following in legible letters at least 2 inches high:

TANK HAS CONTAINED DIESEL FUEL

NOT VAPOR FREE

NOT SUITABLE FOR STORAGE OF FOOD OR LIQUIDS

INTENDED FOR HUMAN OR ANIMAL CONSUMPTION

DATE OF REMOVAL: MONTH/DAY/YEAR

3.4.5 After excavation, but prior to removal from the site, the tank interior shall be thoroughly cleaned. Tank cleaning shall include the removal of sludge from the tank bottom and wiping down the interior of the tank. Workmen entering the tank shall be monitored at all times and be supplied with a constant source of oxygen from an outside supply. API Publication 2217 shall be consulted prior to tank entry.. The latest OSHA Occupational Safety and Health Standards shall be consulted to determine the current confined space requirements.

3.4.6 Tanks shall be removed from the site as promptly as possible after vapor-freeing and cleaning procedures have been completed. The tank shall be removed from the site on the day of tank removal from the excavation.

3.4.6.1 Before the tank is removed from the site, the tank atmosphere should be checked with a combustible gas indicator as specified in 3.3 to ensure that it does not exceed 20 percent of the lower flammable limit.

3.4.6.2 The tank should be secured on a truck for transportation to the storage or disposal site with the 1/8-inch vent hole located at the uppermost point on the tank. Tanks should be transported in accordance with all applicable local, state, and federal regulations.

SECTION 4 - STORAGE OF USED TANKS

4.1 STORAGE CONSIDERATIONS

Even though used tanks that have contained flammable or combustible liquids have been vapor-freed at one time, they cannot be guaranteed to remain vapor-free. Hydrocarbons may be retained in crevices and under scale and may be released when disturbed or over a period of time. It is important, therefore, that appropriate safety precautions be observed at all times.

4.2 STORAGE PROCEDURES

4.2.1 Tanks should be vapor-freed before being placed in storage (see 3.2). Tanks should also be free of all liquids and residues. All tank openings should be tightly plugged or capped, with one plug having a 1/8-inch vent hole to prevent the tank from being subjected to excessive differential pressure caused by temperature changes. Tanks should be stored with the vented plug at the highest point on the tank. All tanks should be labeled as described in 3.4.4.

4.2.2 Used tanks should be stored in secure areas on the premises of persons familiar with any attendant hazards and where the general public will not have access. A fenced yard, apart from other facilities, is desirable.

SECTION 5 - DISPOSAL

5.1 DISPOSAL CRITERIA

5.1.1 Tanks shall be disposed. Whether sold to a scrap dealer or disposed of at an acceptable facility, sufficient holes shall be made in the tanks to render them unfit for further use.

5.1.2 Tanks that have been lined internally or coated externally with epoxy-based or similar materials may not be accepted by scrap processors. Prior inquiries should be made as to the requirements of the processor accepting the tank for scrap.

5.2 DISPOSAL PROCEDURES

5.2.1 After a tank has been vapor-freed, it should be rendered unsuitable for future use as a storage tank by puncturing, cutting, or drilling numerous holes in all sections of the tank.

5.2.2 All tanks should be labeled as described in 3.4.4.

5.2.3 A bill of sale should be used to transfer tank ownership. The bill of sale should include the purchaser's acknowledgment that he assumes all liability related to the tank. Bills of sale should indicate the former use of the tank and carry a warning similar to the following:

TANK HAS CONTAINED DIESEL FUEL

NOT VAPOR FREE

NOT SUITABLE FOR STORAGE OF FOOD OR LIQUIDS

INTENDED FOR HUMAN OR ANIMAL CONSUMPTION

5.2.4 The contractor shall manifest the waste taken from the tank, as well as the tank itself, in accordance with NJDEPE Underground Storage Tank closure regulations.

NOTICE OF REVISIONS

THE TOWNSHIP OF BRICK
OCEAN COUNTY, NEW JERSEY

VEHICLE REFUELING FACILITY

BID OPENING: July 21, 1993 - 10:00 A.M.

ADDENDUM NO. 1 dated July 12, 1993

The information in this Addendum supersedes any contradictory information set forth in the contract documents. This Addendum forms a part of the contract documents.

Bid Form

Insert the attached Bid Form, Page 3A into the Contract Specifications.

Various Locations in Specifications

In some locations in the Specifications, manufacturers equipment or materials are listed by name after which the words "or an approved equal", "or an equal", "or approved equal", etc. appear. In some cases no such words follow. In all cases change the words which appear to "or equal". When no words appear insert "or equal".

Division 2 - Site Work

Pages 10, Article 2.03.15

In the paragraph which begins "The excavation size ..." delete ", sides and top" and in its place insert the following:

"and sides to the centerline of the tank."

Page 11, Article 2.03.15

In the paragraph which begins "The pea gravel ..." delete the first word in the second sentence "All".

Page 14, Article 2.10.01

At the end of the article add the following sentence:

"Specification for chain link cantilever slide gates are found in Section 02831."

Page 14, Article 2.10.02

In paragraph 1 in the first sentence after "Fabric shall be", delete "six foot or".

In paragraph 8 in the first sentence delete "Top and bottom rail" and in its place insert the following:

"Top, bottom and mid rails"

Page 15, Article 2.10.3 - Method of Construction
Change article number to the following: 2.10.03

Page 15, Article 2.10.03

In paragraph 6 in the first sentence, delete "The top and bottom rail is" and in its place insert the following:

"The top, bottom and midrails are".

Section 10530

Page 3, Article 2.05

Delete the article and replace with the following:

2.05 Column Wrap

Column wrap shall be constructed from a 24 gauge steel sheet G90 hot dipped galvanized, tension leveled and have an extra smooth exterior surface. Panel core material shall be virgin expanded polystyrene with nominal 1.0 to 1.5 PCF density. Panel shall have a finish side coated with a full coat of polyester paint baked on over an epoxy primer. Finish panel wrap shall be 1'-00" deep by 2'-00" wide.

Framing requirements shall be specified by canopy manufacturer.

Column wrap shall be as manufactured by Fashion or equal

Section 11140

Page 1, Article 1.01

Item "C" change the number "5" to "15".

At the end of Item "C" add the following:

"and overfill prevention and Stage I Vapor Recovery Systems".

Page 2, Article 1.01

Paragraph which begins "All piping, fittings, ...", add to the beginning of the paragraph the following:

"Furnish and install" Label this paragraph "I".

Page 2, Article 1.01

Paragraph which begins "Electrical and/or control..." add to the beginning of the paragraph the following:

"Furnish and install" Label this paragraph "J".

Page 3, Article 2.01

Paragraph which begins "Hose lengths shall be..." in the second sentence delete the word "approved" and in its place insert the word "listed".

Delete the Article and replace with the following:

2.03 OVERFILL PREVENTION AND STATE I VAPOR RECOVERY SYSTEM

An overfill Prevention and Stage I Vapor Recovery System shall be furnished and installed. The system shall include below grade spill containers, fill pipe and overfill prevention valves, pipe to hose adaptors, caps, extractor fittings, ball float vent valves, product markers and miscellaneous appurtenances for a complete installation.

Below grade spill containers shall be furnished on the four (4) inch fill pipes and the ball float vent pipes. The below grade spill containers shall be designed for installation in the concrete slab and shall consist of a fifteen (15) gallon containment cell made of high density polyethylene installed inside of a steel outer shell coated with polyethylene; Pull to open lever actuated drain valves for high speed draining shall be installed at the bottom of the containment cells to permit spillage to drain back into the storage tank. To prevent vapors from escaping at ground level, hinged vapor tight lids shall be provided on the containment cells. The fiberglass reinforced plastic grade cover on the outer shell shall have an interlock to prevent the replacement of the grade cover without the vapor tight lid lever being in the closed and locked position. The below grade spill containers shall be Model 101BG-1580 as manufactured by OPW or equal.

Wrap-around markers to clearly identify each fuel storage tank shall be installed inside of each spill container. Color code markings shall be in accordance with the API color code system. Markers shall be Model 59 as manufactured by Universal or equal.

The fill pipe shall be furnished with an integral overfill prevention valve to provide positive shut-off of the petroleum product when the tank is near capacity. When the liquid level rises to 95% of tank capacity the valve shall close automatically, reducing the flow to five (5) gpm through a bypass valve. If the storage tank is overfilled to 98% of capacity, the bypass valve shall close automatically and stay closed until the level drops to a safe level. The overfill prevention valve and drop pipe shall be Model No. 61S0 as manufactured by OPW or equal.

Stage I vapor recovery ball float vent valves shall be furnished and installed on each tank. The ball float vent shall restrict and reduce the delivery flow (fill rate) when the tank is no more than ninety percent (90%) full. An extractor fitting and related mounting hardware shall be installed to allow the valve to be removed and a plug installed for tank tightness testing and/or servicing activities. The ball float vent assembly shall be Model No. 53VML as manufactured by OPW or equal.

Top seal adaptors shall be screwed onto the fill pipes and the Stage I vapor recovery vent pipes for connecting truck delivery hose to the underground storage tanks. The top seal adaptor shall be Model No. 633T as manufactured by OPW or equal.

Vapor tight top seal caps designed to mate with the top seal adaptors shall be provided on the fill pipes and the Stage I vapor recovery vent pipes. The caps shall have a toggle lever to distribute downward pressure to compress the caps buna-N gasket evenly, assuring a positive uniform leakproof seal. The top seal caps shall be Model 634TT as manufactured by OPW or equal.

Page 5, Article 2.05

The paragraph which begins "The secondary containment system shall have..." delete the words ",at the turbine enclosure."

Section 13216

Page 3, Article 2.04

In the first sentence of Article delete "patented twenty-four inch (24") and replace with the following:

"forty-two inch (42")"

Page 4, Article 2.06

Last paragraph on page, first sentence, delete "and to a depth...where tamping is required" and in its place insert the following:

"up to the centerline of the tanks."

Page 5, Article 4 - Payment

In the first paragraph after "...lump sum price bid for..." delete the remainder of the sentence and in its place insert the following:

"bid item No. 1."

Section 13350

Page 2, Article 2.01.01

In Item H change the words "lak detect" to "leak detection".

Page 3, Article 2.01.04

In Item C after "No more than" insert the word "two".

Section 15064

Page 2, Article 3.02

Delete the first sentence which begins "Trench depth is..." in its entirety.

Section 17000

Page 1, Article 1

In the first sentence after "...waste oil storage tank" delete the following:

"and one (1) 8000 gallon underground unknown petroleum product storage tank".

Page 1, Article 1

In the second sentence after "...supervision and equipment to remove..." insert the words "and dispose".

Special Conditions

After General Conditions insert the following as "Special Conditions":

1. Bidder Qualifications

In accordance with the provisions of N.J.S.A. 58:10A-24.1-8 all firms and individuals performing work on underground storage tanks shall be certified by the State of New Jersey.

The Contractor and any subcontractor performing installation, subsurface evaluation or tank closures shall submit a valid Corporate UST Certification from the NJDEPE with their bid. Failure to submit certifications will deem the bid unresponsive and automatically disqualify the bidder.

Individuals performing work as described above are also required to be certified by the NJDEPE. Individual certifications shall be submitted at the Preconstruction Meeting.

Drawing 2 of 6

Diesel fuel dispenser on middle island shall be labeled as "Dual Hose".

All gasoline and diesel supply lines shall be 2" diameter.

Drawing 3 of 6

Chain Link Fence Detail - What is shown on the drawing as a "Horizontal Brace" is referred to in the Specifications as "Mid-Rail".

Drawing 4 of 6

The 1000 gallon waste oil tank is not shown on the drawing. It is located under a concrete pad 5"± outside the West corner of the transportation building.

Drawing 6 of 6

The dimensions shown on the concrete duct bank detail should be shown as minimum dimensions.

The undersigned hereby agrees that the following supplemental Unit Prices will form the basis of additional compensation to the Lump Sum Price bid for this Contract for work additional to, and the basis of deduction from the Lump Sum Price bid for this Contract for work deleted from, the Work required by the construction indicated on the Drawings or specified herein, as ordered in writing by the Resident Engineer.

DESCRIPTION	UNIT PRICE
Curb, 6x8x18	\$10.00 Per lineal foot
Roadway Excavation/Fill	20.00 Per cu. yd.
Subbase, I-5, 6" Thick	9.50 Per sq. yd.
Bit. Stabilized Base, 4" Thick	11.50 Per sq. yd.
Bit. Conc. Surface Course, 2" Thick	6.50 Per sq. yd.

The above Unit Prices shall include all direct costs, indirect costs and profit to cover the finished work of the several kinds called for.

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OCEAN COUNTY, NEW JERSEY

VEHICLE REFUELING FACILITY

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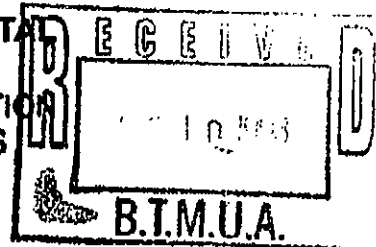
DESCRIPTION	UNIT PRICE
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Subbase, I-5, 6" Thick	9.50 Per sq. yd.
Bit. Stabilized Base, 4" Thick	11.50 Per sq. yd.
Bit. Conc. Surface Course, 2" Thick	6.50 Per sq. yd.

The above Unit Prices shall include all direct costs, indirect costs and profit to cover the finished work of the several kinds called for.

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029



TMS #

UST #

C-93-3058

0042220

Brick BOE-Trans. Bldg.
346 Chambersbridge Rd.
Brick, NJ

Ocean

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Removal of: one 8,000 gallon #2 diesel UST(s) and appurtenant piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the center line of each tank and one (1) soil sample for every 15 feet along all associated piping. Two (2) additional samples will be taken from around the tank and biased to the areas of highest field screened readings. Samples will be analyzed for TPHC. If sample results are greater than 1,000ppm then samples will be analyzed for VO+10.

ON-SITE MANAGER:

S. Bundy

TELEPHONE:

908-477-2800

OWNER:

TELEPHONE:

EFFECTIVE DATE: JUL 23 1993

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.

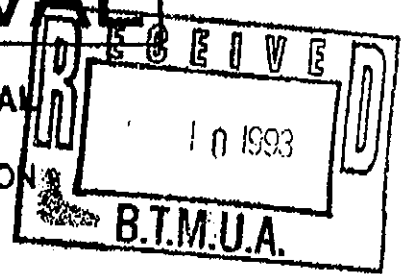
A handwritten signature in black ink, appearing to read "Kevin F. Kratina", written over a horizontal line.

KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029



TMS # C-93-2569

UST #

0042220

Brick BOE-Trans. Bldg.
346 Chambersbridge Rd.
Brick, NJ

Ocean

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

REMOVAL OF: one 550 gallon waste oil UST(s) and appurtenant
piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet
along the centerline of each tank and one sample every 15 feet
along all appurtenant piping. Two (2) additional samples will be
taken from around the tank and biased to areas of the highest
field screened readings. Samples will be analyzed for TPHC and
analyze 25% of the samples with ANY PHC result for VO+10, BN+15,
PCB's, and Priority Pollutant Metals. If TPHC results are ND, no
additional analysis is required. Waste oil contaminated soils
must be disposed of as X-725 hazardous waste as outlined in 7:26-
8.1. This closure shall supercede closure dated 6/2/93

ON-SITE MANAGER: S. Bundy

TELEPHONE: 908-477-2800

OWNER:

TELEPHONE:

EFFECTIVE DATE: JUL 23 1993

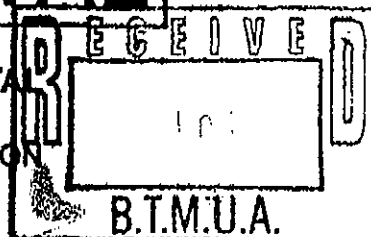
THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
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KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029



TMS # C-93-3057

UST #

0042220

Brick BOE-Transportation Bldg.
346 Chambersbridge Rd.
Brick, NJ

Ocean

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Removal of: one 10,000 gasoline UST(s) and associated piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the centerline of each tank and one (1) sample every 15 feet along all appurtenant piping. Two (2) additional samples will be taken from each tank area and biased to the areas of highest field screened readings. Samples will be analyzed for VO+10 (and lead when applicable).

S. Bundy

908-477-2800

ON-SITE MANAGER:

TELEPHONE:

OWNER:

TELEPHONE:

EFFECTIVE DATE: JUL 23 1993

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.

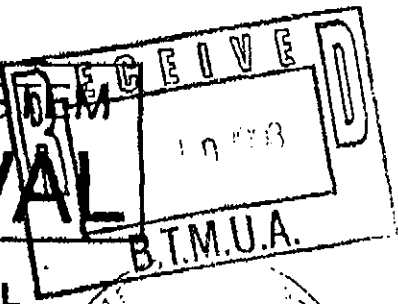
A handwritten signature in dark ink, appearing to read "Kevin F. Kratina".

KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029



TMS # C-93-3056

UST #

0042220

Brick BOE-Transportation Bldg.
346 Chambersbridge Rd.
Brick, NJ

Ocean

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM
THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Removal of: one 2,000-gal gasoline UST(s) and associated piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the centerline of each tank and one (1) sample every 15 feet along all appurtenant piping. Two (2) additional samples will be taken from each tank area and biased to the areas of highest field screened readings. Samples will be analyzed for VO+10 (and lead when applicable).

S. Bundy

908-477-2800

ON-SITE MANAGER:

TELEPHONE:

OWNER:

TELEPHONE:

EFFECTIVE DATE:

JUL 23 1993

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.

KEVIN F. KRATINA, BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

RECEIVED
OCT 15 1993
DIV. OF INSPECTION

BRICK TOWNSHIP PLANNING BOARD

CAPITAL PROJECT APPROVAL

RESOLUTION: R-57-93

Page -1-

CASE NO.

October 13, 1993

WHEREAS, the Township of Brick and the Brick Township Board of Education have applied to the Brick Township Planning Board for capital project approval pursuant to N.J.S.A. 40:55D-31; and

WHEREAS, the Planning Board reviewed the proposal of the Township and Board of Education at its meeting held on October 6, 1993; and

WHEREAS, the Board makes the following factual findings and findings of law:

1. This property is designated as Lot 12, Block 701.39 on the Municipal Tax Map.

2. The Township and Board of Education propose to maintain a joint fueling facility at the site to provide fuel for vehicles operated by the Township and Board of Education. Redundant fueling facilities formerly utilized by each body will be closed in accordance with regulations of the Department of Environmental Protection and Energy.

3. The Board finds that the proposed project is consistent with the municipal zoning ordinance and master plan and will not

File - 2
wpcnc1
J.P. Bd of Ed
Mayor
Bus. Admin
J.P. M.P.A.
J.P. 23000000
Bldg.
Eng.
Loning

RESOLUTION: R-57-93

Page -2-

October 13, 1993

interfere with neighboring properties. The Board further finds that the combination of the fueling facilities by the Township and Board of Education is desirable and will provide an upgraded facility consistent with requirements of State law.

NOW, THEREFORE, BE IT RESOLVED, by the Brick Township Planning Board on this 13th day of October , 1993, that it favorably recommends the undertaking and completion of this project by the Township of Brick and Brick Township Board of Education.

RESOLUTION: R-57-93

Page -3-

October 13, 1993

MOVED BY: Mrs. Barlo

SECONDED BY: Mrs. LaDuke

VOTING IN THE AFFIRMATIVE: Mr. Anderson Mr. Heslin

Mr. Jordan Mrs. LaDuke Mayor Patetta Mrs. Barlo

Mr. Sharkey

VOTING IN THE NEGATIVE: _____

INELIGIBLE TO VOTE: _____

ABSTAINING: _____

ABSENT: Councilman Cantillo Mr. Heidrick Mr. Wylie Mr. Digironimo

CERTIFICATION

I, E. JOAN KULL, Clerk of the Planning Board of the Township of Brick, County of Ocean, State of New Jersey, do hereby certify that the foregoing resolution was duly ADOPTED by the said Planning Board of the Township of Brick at a regular meeting held on the 13th day of October, 1993.

IN WITNESS WHEREOF, I have set my hand this 14th day of October, 1993.

E. Joan Kull
E. JOAN KULL
Clerk of the Planning Board