Design Report

Eastham, MA

Route 6/Salt Pond Bay Area Drainage Improvements

June 2012
Revised September 2013

Weston & Sampson

Weston & Sampson Engineers, Inc.
Five Centennial Drive
Peabody, MA 01960-7985

www.westonandsampson.com
Tel: 978-532-1900 Fax: 978-977-0100

Route 6/Salt Pond Bay Area
Drainage Improvements
Design Report *revised September 2013*

Table of Contents

1.) Introduction and Project Narrative

2.) Water Quality Analysis Calculations

3.) DEP Stormwater Standards Report

4.) Operation and Maintenance Plan

5.) Project Quantities and Construction

6.) Specifications

Introduction and Project Goal

The project is being funded with assistance from the USDA through NRCS and the Town of Eastham. This project is intended to mitigate stormwater runoff from Route 6 into Salt Pond Bay. The focus will be to improve infrastructure within the watershed of shell fishing areas in and around Salt Pond Bay. Route 6 currently contributes a large amount of stormwater with little to no treatment prior to discharge. This project will improve that by adding best management practices which will treat the first flush of stormwater, improving the water quality in shellfish areas.

The project focuses on two watersheds north and south of the Eastham town hall along Route 6. This includes approximately one mile of Route 6, or 2,300 feet of four lane highway south of town hall and 3,100 feet to the north. The project will utilize the porous sandy soils outside of the roadway to infiltrate as much storm water as possible. This is proposed with the use of leaching basins and leaching trenches installed between the pavement edge and the right of way line. There will be some disturbance to the travel way as part of the construction, but this will be minimized wherever possible.

The treatment systems are designed to only treat the first flush of water from the roadway. Large rain events will continue to utilize the existing infrastructure to shed safely off the roadway.

Water Quality Improvements Summary

The following assumptions were made for the water quality calculation for the Route 6 Drainage Improvements Project.

- Ground water is not an issue at these design points. This was verified with the test pit program.

- 1” of precipitation for volume calculations

There are two catchment areas within the project, covering stations 115+00 to 140+50 and 140+50 to 169+00. Each of these catchment areas were broken down into separate sub-catchment areas and assigned a designation. Each subcatchment area has been given a treatment management practice, as outlined below, based on 1” of precipitation over the impervious area.

Subcatchment A - Station 115+00 to 117+19

The water quality volume will be treated by using a 90’-24” leaching trench and 2 leaching basins installed under the existing sidewalk on the left side of the road from station. The width from the edge of pavement to the right of way is approximately 6’.

Subcatchment B - Station 117+19 to 119+44

The water quality volume will be treated by using a 112’-24” leaching trench and 2 leaching basins installed under the existing sidewalk on the left side of the road. The width from the edge of pavement to the right of way is approximately 6’.

Subcatchment C - Station 119+44 to 121+69

The water quality volume will be treated by using a 130’-24” leaching trench and 2 leaching basins installed under the existing sidewalk on the left side of the road. The width from the edge of pavement to the right of way is approximately 6’.

Subcatchment D - Station 121+69 to 124+61

The water quality volume will be treated by using a 146’-24” leaching trench and 3 leaching basins installed under the existing sidewalk on the left side of the road. The width from the edge of pavement to the right of way is approximately 6’.

Subcatchment E - Station 124+61 to 130+28

The water quality volume will be treated by using 14 leaching basins installed on the right side of the road. At this subcatchment, the existing drainage shifts from the left side of the roadway to the right side of the roadway bringing it into proximity with the existing gas line. Any

structures or leaching trench installed in this area will need to be coordinated with the existing gas line.

Subcatchment F - Station 130+28 to 132+60

In order to satisfy the water quality volume for this subcatchment, either 6 leaching basins or 159 LF of 24" leaching trench will be required. Any structures or leaching trench installed in this area will need to be coordinated with the existing gas line. It may not be possible to satisfy the water quality requirement in this sub catchment due to the conflict with the existing gas line. At this time, there are no water quality treatment measures being shown.

Subcatchment G - Station 132+60 to 134+83

In order to satisfy the water quality volume for this subcatchment, either 6 leaching basins or 156 LF of 24" Leaching Trench will be required. Any structures or leaching trench installed in this area will need to be coordinated with the existing gas line. It may not be possible to satisfy the water quality requirement in this sub catchment due to the conflict with the existing gas line. At this time, there are no water quality treatment measures being shown.

Subcatchment H - Station 134+83 to 137+22 Right

The water quality volume will be treated by using a 35'-24" leaching trench and 2 leaching basins installed on the right side of the road. Any structures or leaching trench installed in this area will need to be coordinated with the existing gas line.

Subcatchment I - Station 135+22 to 137+22 Left

The water quality volume will be treated by using a 60'-24" leaching trench and 2 leaching basins installed under the existing sidewalk on the left side of the road. The width from the edge of pavement to the right of way is approximately 6'.

Subcatchment J1, J2, and J3 – Station 137+22 to 140+50 Right, Station 137+22 to 137+95 Left, and Station 137+22 to 140+50 Right

This section of roadway has been divided into three sections, J1, J2, and J3. The water quality volume will be treated for this subcatchment using 11 leaching basins on town property in this area. The 11 leaching basins are divided into 2 groups of 4 basins each and 1 group of 3 basins, located in near proximity to existing catch basins.

Subcatchment K1 and K2 – Station 140+50 to 143+51 Right and Station 140+50 to 143+00 Left

This section of roadway was divided into two sections, K1 and K2. The water quality volume will be treated for this subcatchment using a 25'-24" leaching trench and 6 leaching basins. K1 will have 4 leaching basins, while K2 will have a 25'-24" leaching trench and 2 leaching basins.

Subcatchment L1 and L2 – Station 143+51 to 146+00 and Station 143+00 to 144+40 Left

This section of roadway was divided into two sections, L1 and L2. In order to satisfy the water quality volume for this subcatchment, either 8 leaching basins or 201'-24" leaching trench will be required. Currently, Weston & Sampson is proposing using 5 leaching basins, to the maximum extent practicable, in this area.

Subcatchment M– Station 146+00 to 148+75

The water quality volume will be treated for this subcatchment using 6 leaching basins.

Subcatchment N – Station 148+75 to 150+90

The water quality volume will be treated for this subcatchment using 5 leaching basins.

Subcatchment O – Station 150+90 to 152+49

The water quality volume will be treated for this subcatchment using 4 leaching basins.

Subcatchment P – Station 152+49 to 154+66

The water quality volume will be treated for this subcatchment using a 50'- 24" leaching trench and 6 leaching basin located on the left side of the roadway.

Subcatchment Q – Station 154+66 to 159+53

In order to satisfy the water quality volume for this subcatchment, either 15 leaching basins or 401'-24" leaching trench will be required. Currently, Weston & Sampson is proposing using 10 leaching basins, to the maximum extent practicable, along the left shoulder of Route 6.

Subcatchment R1 and R2 – Station 159+53 to 162+02 Left and Station 160+65 to 162+84 Right

This section of roadway was divided into two sections, R1 and R2. The water quality volume will be treated for this subcatchment using 10 leaching basins.

Subcatchment S1a, S1b, S2 – Station 162+47 to 166+03 Right, Station 162+84 to 164+68 Right, and Station 162+02 to 164+51 Left

This section of roadway was divided into three sections, S1a, S2b, and S2. The water quality volume will be treated for this subcatchment using 13 leaching basins. The proposed leaching basins will be coordinated with existing utilities and are divided into three groups, 4 on the left side of the street, 6 in the median, and 3 on the right side of the street.

Subcatchment T1 and T2 – Station 164+68 to 167+21 Right and Station 164+51 to 166+75 Left

This section of roadway divided into two sections, T1 and T2. In order to satisfy the water quality volume for this subcatchment, either 15 leaching basins or 400'-24" leaching trench will be required. Currently, Weston & Sampson is proposing a 106'-24" leaching trench and 2 leaching basins along the left side of the road and 8 leaching basins in the grassed island, to the maximum extent practicable.

Subcatchment U – Station 166+03 to 169+00

In order to satisfy the water quality volume for this subcatchment, either 9 leaching basins or 222'-24" leaching trench will be required. Currently, Weston & Sampson is proposing 8 leaching basins, to the maximum extent practicable, positioned along the left side of the roadway.

z:\ma-foxboro-projects\eastham ma\salt pond_route 6 - 2110473\design report\design report revised sept 2013\design report toc, narrative.docx

Eastham, MA
Route 6 - Salt Pond Road Drainage Improvements

Water Quality Volume Analysis

Subcatchment 1 - Station 115+00 to 140+50

Catchment #	Station	to	Station	Roadway Area (SF)*	Precipitation (In)	Water Quality Volume Required (CF)	Leaching Basin Provided (EA)	Leaching Trench Provided (LF)	Treatment Volume Provided (CF)	Net Treatment Volume Provided (CF)**
A	11500		11719	10192	1.00	849	2	90.0	842.4	-7
B	11719		11944	11705	1.00	975	2	112.0	970.2	-5
C	11944		12169	12115	1.00	1010	2	130.0	1074.8	65
D	12169		12461	15273	1.00	1273	3	146.0	1327.5	55
E	12461		13028	26630	1.00	2219	14	0.0	2236.6	17
F	13028		13260	11028	1.00	919	0	0.0	0.0	-919
G	13260		13483	10821	1.00	902	0	0.0	0.0	-902
H	13483	RT	13722	5817	1.00	485	2	35.0	522.9	38
I	13483	LT	13722	8171	1.00	681	2	60.0	668.1	-13
J1	13722	RT	14050	7193	1.00	599	4	0.0	639.0	40
J2	13722	LT	13795	5485	1.00	457	3	0.0	479.3	22
J3	13722	RT	14050	6591	1.00	549	4	0.0	639.0	90

Assumptions:

1 Leaching Basin can store 159.76 CF of Stormwater

1 Linear Foot (LF) of Leaching Trench can store 5.81 CF of Stormwater

Notes:

* Impervious Areas calculated from Autocad Civil 3D

** Certain areas could only be treated to the maximum extent practicable. Areas "F" and "G" have an existing gas line between the curb and ROW line, thus preventing available space for a leaching basin or trench.

Eastham, MA
Route 6 - Salt Pond Road Drainage Improvements

Water Quality Volume Analysis

Subcatchment 2 - Station 140+50 to 169+00

Catchment #	Station	to	Station	Roadway Area (SF)*	Precipitation (In)	Water Quality Volume Required (CF)	Leaching Basin Provided (EA)	Leaching Trench Provided (LF)	24" Underdrain Treatment Volume Provided (CF)	Net Treatment Volume Provided (CF)**
K1	14050	RT	14351	6698	1	558	4	0	639.0	81
K2	14050	LT	14300	5880	1.00	490	2.0	25	464.8	-25
L1	14351	RT/LT	14600	9883	1.00	824	5.0	0	798.8	-25
L2	14300	LT	14440	4090	1.00	341	0.0	0	0.0	-341
M	14600		14875	11250	1.00	938	6.0	0	958.6	21
N	14875		15090	8651	1.00	721	5.0	0	798.8	78
O	15090		15249	6477	1.00	540	4.0	0	639.0	99
P	15249		15466	14797	1.00	1233	6.0	50	1249.1	16
Q	15466		15953	27952	1.00	2329	10.0	0	1597.6	-732
R1	16065	RT	16284	4740	1.00	395	2.0	0	319.5	-75
R2	15953	LT	16202	14232	1.00	1186	8.0	0	1278.1	92
S1a	16247	Rta	16603	11849	1.00	987	6.0	0	958.6	-29
S1b	16284	RTb	16468	5920	1.00	493	3.0	0	479.3	-14
S2	16202	LT	16451	7142	1.00	595	4.0	0	639.0	44
T1	16468	RT	16721	16200	1.00	1350	8.0	0	1278.1	-72
T2	16451	LT	16675	11629	1.00	969	2.0	106	935.4	-34
U	16603		16900	15461	1.00	1288	8.0	0	1278.1	-10

Assumptions:

1 Leaching Basin can store 159.76 CF of Stormwater

1 Linear Foot (LF) of Leaching Trench can store 5.81 CF of Stormwater

Notes:

* Impervious Areas calculated from Autocad Civil 3D

** Certain areas could only be treated to the maximum extent practicable. Area "L2" has minimal space between the curb and ROW line, thus preventing a leaching basin or trench. Area "Q" has minimal space available adjacent to an existing slope and a existing septic system. Title V setbacks were observed.

Stormwater Report

To Be Submitted with the Design Report

Applicant/Project Name:	Town of Eastham, Route 6/Salt Pond Bay Area Drainage Improvements
Project Address:	Mid Cape Highway, Route 6, Eastham, MA
Application Prepared by:	
Firm:	Weston & Sampson, Inc.
Registered PE:	S. Roger Alcott

Below is an explanation concerning Standards 1-10 as they apply to the proposed project:

Standard 1: No New Untreated Discharges

Not applicable

The proposed work will create no new untreated discharges. The work area will maintain the same surface area type (impervious). Since the surface area will stay impervious, there will be no new stormwater discharge at the end of the project.

Standard 2: Peak Rate Attenuation

Not Applicable

This project will take place in an already disturbed, impervious area (the road and adjacent state highway layout). At the completion of the project, the area disturbed during the project will be returned to its previous condition before the start of the project. Since the impervious area will not change, post-development peak discharge will not be changed at the site. To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control measures will be utilized during construction. These measures will include single mulch filter tubes as depicted on the site plans.

Standard 3: Recharge

Not Applicable

As noted in the **Standard 2** explanation, the impervious area in the work area will not change at the completion of the project. Therefore, recharge is not required under this standard. However, this project will introduce the addition of stormwater infiltration systems to increase recharge where possible. To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control measures will be utilized during construction. These measures will include single mulch filter tubes as depicted on the site plans.

Standard 4: Water Quality

Not Applicable

As noted in the **Standard 2** explanation, the surface area at the work site will not change upon project completion. As such, water quality at the site after completion of project will be no different than water quality at the start of the project. The work area is already an impervious area and will continue to be so at the end of the project. During the project, appropriate BMPs will be used to minimize sedimentation and soil erosion. Currently, stormwater from the roadway flows directly into the Salt Pond Bay. Some of this water will be redirected into leaching systems, which will improve water quality from current conditions.

Standard 5: Land Uses with Higher Potential Pollutant Loads (LUHPPLs)

Not applicable

There are no LUHPPLs in the work area. Land use in the work area will not change. The work area is currently being used as a road and will continue to be used as a road upon completion of the project.

Standard 6: Critical Areas

Not applicable

There will be no new discharge to critical areas. The impervious area in the work area will not change at the completion of the project; therefore discharge will remain the same. To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control measures will be utilized during construction. These measures will include single mulch filter tubes as depicted on the site plans.

Standard 7: Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable

Not applicable

This is not a re-development project or any other type of project listed in the "Checklist for Stormwater Report" under Standard 7.

Standard 8: Construction Period Pollution Prevention and Erosion and Sediment Control

Not applicable

A detailed Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan is not needed. Work will be in a narrow, contained area and construction will consist of excavating a 10-foot wide ditch along the already disturbed pavement, in which infrastructure piping will be placed. The ditch will then be back-filled and re-paved to return the road to its pre-project condition. To ensure that the work incorporates the performance standards recommended in the DEP's Stormwater Management Policy, necessary erosion and sedimentation control measures will be utilized during construction. These measures will include single mulch filter tubes as depicted on the site plans.

Standard 9: Operation and Maintenance Plan

Not applicable

Operations and maintenance will consist of street sweeping and inspecting and cleaning the catch basins and infiltration systems. The attached Operations and Maintenance Plan specifies the frequency of inspection and maintenance of the BMPs.

Standard 10: Prohibition of Illicit Discharges

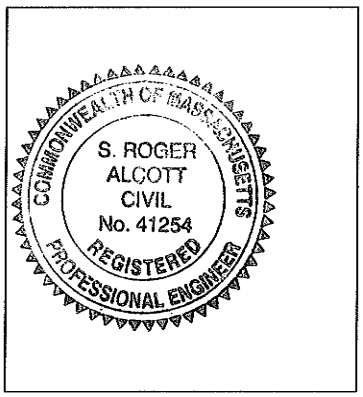
Not applicable

There is no need for a long-term pollution prevention plan since there will be no new disturbance in the work area. By the nature of the proposed work, there will be no illicit discharges. The work will all take place under the ground (in ditches). When work is completed for an area, the ditch will be backfilled and re-paved. There will be no opportunity for illicit discharges into the system.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan (if included), the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



S. Roger Alcott 9/11/13

Signature and Date

1.0 Introduction

The Town of Eastham Department of Public Works and Natural Resource Conservation Services (NRCS) have designed a drainage improvement system to treat stormwater prior to discharge into the Salt Pond Bay.

2.0 Purpose

This Operation and Maintenance Plan (O&M Plan) is intended to provide a mechanism for the consistent inspection and maintenance of each BMP installed on the project site. Included in this O&M Plan is a description of each BMP type and an inspection form for each BMP. The Massachusetts Department of Transportation is the owner and operator of the system and is responsible for its upkeep and maintenance. This work will be funded on an annual basis through the state's operating budget.

3.0 BMP Description and Locations

3.1 Deep Sump Catch Basins

There are a number of deep sump catch basins that collect stormwater runoff over the entire site. Deep sump catch basins are collection systems that are designed to remove trash, debris, and coarse sediment from the stormwater runoff.

3.2 Infiltration Systems

Infiltration Systems include Basins and Trenches are underground systems that capture runoff and infiltrate it into the ground over time. There are three infiltration systems along the project limits at various locations. Please see the attached location map for exact locations.

3.3 Street Sweeping

All hot mix asphalt surfaces should be swept clean to improve TSS removal from stormwater.

4.0 Inspection, Maintenance Checklist and Schedule.

4.1 Deep Sump Catch Basins

Deep Sump Catch Basins should be inspected four times per year to determine the depth of sediment in basin. If the amount of sediment in the

bottom of the basin is over 2' in depth, then the basin should be cleaned. Each catch basin should be cleaned a minimum of four times per year regardless of the amount of sediment in the basin. Polluted water, sediments and debris should be disposed of in accordance with local, state and federal regulations.

4.2 Infiltration Systems

Infiltration systems should be inspected twice per year in the spring and the fall and monitored for the accumulation of sediment and debris. Once the total depth of sediment and debris reaches 3" on average, the infiltration system should be cleaned using a vacuum truck or other cleaning device. All sediment and debris should be disposed of in accordance with local, state, and federal regulations.

4.3 Inspections and Record Keeping

- An inspection form should be filled out each and every time maintenance work is performed.
- A binder should be kept at the Massachusetts Department of Transportation that contains all of the completed inspection forms and any other related materials.
- A review of all Operation & Maintenance actions should take place annually to ensure that these Stormwater BMPs are being taken care of in the manner illustrated in this Operation & Maintenance Plan.
- All operation and maintenance log forms for the last three years, at a minimum, shall be kept on site at the Department of Public Works.
- The inspection and maintenance schedule may be refined in the future based on the findings and results of this operation and maintenance program or policy.

4.4 Street Sweeping

Should be conducted semi-annual all sweeping should be disposed of according to state, local, and federal regulations.

Engineers Construction Estimate (March 2012)
Route 6/Salt Pond Drainage Improvements Project
Eastham, Massachusetts

Item	Unit	Item Description	Quantity	Unit Price	Total
120.1	CY	Unclassified Excavation	180	$25.00	$4,500
141.1	CY	Test Pit for Exploration	100	$55.00	$5,500
151.	CY	Gravel Borrow	120	$30.00	$3,600
170.	SY	Fine Grading And Compacting	520	$3.00	$1,560
201.	EA	Catch Basin	2	$2,500.00	$5,000
202.	EA	Manhole	2	$3,000.00	$6,000
205.	EA	Leaching Basin	115	$3,500.00	$402,500
206.	EA	Drop Inlet	2	$2,300.00	$4,600
220	EA	Drainage Structure Adjusted	21	$300.00	$6,300
220.3	EA	Drainage Structure Change in Type	2	$650.00	$1,300
221	EA	Frame and Cover	115	$575.00	$66,125
222	EA	Frame and Grate	5	$575.00	$2,875
223	EA	Frame and Grate Removed and Reset	5	$275.00	$1,375
252.024	LF	24" High Density Polyethylene Leaching Trench	1300	$70.00	$91,000
252.12	LF	12" High Density Polyethylene Pipe	330	$48.00	$15,840
358.	EA	Gate Box Adjusted (Water/Gas)	2	$150.00	$300
464.	GAL	Bitumen for Tack Coat	30	$7.00	$210

Engineers Construction Estimate (March 2012)
Route 6/Salt Pond Drainage Improvements Project
Eastham, Massachusetts

472.	TON	Hot Mix Asphalt for Miscellaneous Work	160	$155.00	$24,800
482.3	LF	Sawing Asphalt Pavement	1100	$2.00	$2,200
504	LF	Granite Curb Type VA4 - Straight	100	$33.00	$3,300
580.	LF	Curb Removed and Reset	500	$18.00	$9,000
594	LF	Curb Removed and Discarded	100	$5.00	$500
701.2	SY	Cement Concrete Wheelchair Ramp	$90.00	$12.00	$1,080
702.	TON	Hot Mix Asphalt Walk Surface	30	$150.00	$4,500
703.	TON	Hot Mix Asphalt Driveway	50	$150.00	$7,500
751.	CY	Loam Borrow	320	$38.00	$12,160
765.	SY	Seeding	2900	$2.00	$5,800
874.20	EA	Traffic Sign Removed and Reset	5	$90.00	$450

Subtotal=	**$689,875**
Contingency (12%)	**$82,785**
Police Details=	**$43,000**
Flagger=	**$4,000**
Total=	**$819,660**
SAY=	**$825,000**

Contract Documents

Eastham, MA

Route 6/Salt Pond Bay Area Drainage Improvements

June 2012

Weston & Sampson

Weston & Sampson Engineers, Inc.
Five Centennial Drive
Peabody, MA 01960-7985

www.westonandsampson.com
Tel: 978-532-1900 Fax: 978-977-0100

TABLE OF CONTENTS

Division		Section Number
0	**BIDDING AND CONTRACT REQUIREMENTS**	
	Advertisement For Bids	00100
	Instructions to Bidders	00200
	Form of General Bid	00410
	Agreement	00520
	Performance Bond	00610
	Payment Bond	00615
	Standard General Conditions for Construction Contract-1996 Edition	00700
	Supplementary Conditions	00800
	State Regulations (Massachusetts)	00830
	Wage Rates	00830A
	Excerpts from Chapters 30, 82 and 149 of the Mass. Gen. Laws	00830B
	Change Orders	00830D
	Permits	00890
1	**GENERAL REQUIREMENTS**	
	Control of Work and Materials	01110
	Construction Coordination	01140
	Submittals	01330
2	**SITE WORK**	
	Special Provisions	02000
	ATTACHMENTS	
	Attachment A – Test Pit Logs	
	Attachment B – Wetland Delineation	

END OF SECTION

SECTION 00100

ADVERTISEMENT FOR BIDS

Town of Eastham, Massachusetts

Sealed bids for the Route 6/Salt Pond Bay Area Drainage Improvements project for the Town of Eastham, Massachusetts, will be received at the Town Hall, 2500 State Highway, Eastham, MA 02642 until TIME prevailing time, on DATE at which time and place said bids will be publicly opened and read aloud.

The work under this contract is anticipated to begin after DATE and consists of furnishing all necessary labor, materials and equipment required for the drainage improvements of a portion of Route 6. The work under this project consists of roadway and drainage improvements at various locations to Locust Road in Eastham, Massachusetts. The project site starts south of Rabbit Run, at Station 115+00, and continues north, at Station 169+00, as shown on the plans. The work includes, but is not limited to: installation of leaching basins and trenches, minor roadway reconstruction, land clearing and grubbing, earthwork, sediment and debris removal, subgrade preparation, and paving with bituminous concrete, installation of catch basins, pavement markings, and other appurtenances and incidental items as set forth in the construction documents and required to complete the work.

All work done under this contract shall be in conformance with the *Massachusetts Highway Department 1995 Standard Specifications for Highways and Bridges* and the *Supplemental Specifications* dated, June 6, 2006 and February 25, 2010, the 1996 *Construction and Traffic Standard Details* and the *Supplemental Drawings* dated April 2003, the *Manual on Uniform Traffic Control Devices 2009 Edition, the 1968 Standard Drawings for Traffic Signals and Highway Lighting;* the latest edition of *American Standard of Nursery Stock*, the *Plans* and these *Special Provisions*. *All Rules and Regulations of the Architectural Access Board (521 CMR 1.00 ET SEQ.) as Amended, the Drawings and these SPECIAL PROVISIONS.*

Bid Security in the form of a bid bond, cash, certified check, treasurer's or cashier's check payable to the Owner, is required in the amount of five percent of the bid, in accordance with Section 00200, INSTRUCTIONS TO BIDDERS.

The Instructions to Bidders, Form of General Bid, Agreement, Plans, Specifications, Performance and Payment Bond, and other Contract Documents may be examined at the following:

Weston & Sampson Engineers, Inc. 5 Centennial Drive Peabody, MA 01960-7985
Weston & Sampson Engineers, Inc. 100 Foxborough Blvd. Suite 250, Foxboro, MA 02035
Town of Eastham 2500 State Highway Eastham, MA 02642

Copies may be obtained at the Town of Eastham, located at 2500 State Highway, Eastham, MA 02642, from 8 a.m. to 4 p.m., upon payment of $50 for each set. Any unsuccessful bidder or nonbidder, upon returning such set within the time specified in the Instructions to Bidders and in good condition will be refunded his payment.

Contract Documents and plans will be mailed to prospective bidders upon request and receipt of a separate check for $25 to cover handling and mailing fees. This amount is not refundable.

Both checks shall be made payable to the Town of Eastham.

The selected contractor shall furnish a performance bond and a payment bond in amount at least equal to one hundred percent (100%) of the contract price as stipulated in Section 00700 GENERAL CONDITIONS of these specifications.

All bids for this project are subject to applicable bidding laws of Massachusetts, including General Laws Chapter 30, Section 39M as amended.

Attention of bidders is particularly called to the requirements as to conditions of employment to be observed and minimum wage rates to be paid under the contract as determined by the Department of Workforce Development under the provisions of the Massachusetts General Laws Chapter 149, Section 26-27D, inclusive, as amended.

Attention of bidders is called to the requirement that they be prequalified for Highway Construction or Surfacing by the Massachusetts Highway Department (MHD). Contractors must fill out a Proposal Form (R109), available from MHD, Construction Contracts, Engineers Room 6260, 10 Park Plaza, Boston MA 02116, Phone (617) 973-7320, and submit this to the MHD Prequalifications Office for Approval. Bidders must present MHD "Certificate of Approval" to obtain "Official" bid documents. Any bid submitted without such pre-qualification shall be invalid.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 working days, Saturdays, Sundays and legal holidays excluded after the opening of bids.

The Owner reserves the right to waive any informalities or to reject any or all bids.

TOWN OF EASTHAM, MASSACHUSETTS

BY ITS BOARD OF SELECTMEN

_____

_____

Weston & Sampson Engineers, Inc.
Peabody, Massachusetts

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00100 - Advertisement for Bids.doc

SECTION 00200

INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids
2. Location and Work to be Done
3. Deposit on Documents
4. Preparation of Bid
5. Telegraphic Modification
6. Obligation of Bidder
7. Information not Guaranteed
8. Bid Security
9. Time for Completion
10. Addenda and Interpretations
11. Bid Opening Procedure
12. Comparison of Bids
13. Statutes Regulating Competitive Bidding
14. Right to Reject Bid
15. Ability and Experience of Bidder
16. Conditions of Work
17. Security for Faithful Performance
18. Power of Attorney
19. Laws and Regulations
20. Liquidated Damages for Failure to Enter into Contract
21. Items and Indeterminate Items
22. CONTRACTOR Records
23. Bidder Qualification
24. As-Built Drawings
25. Price Adjustment for all Hot Mix Asphalt Mixtures

1. Receipt and Opening of Bids

The Town of Eastham herein called the OWNER, acting by and through its Board of Selectmen will receive sealed Bids for the Route 6/Salt Pond Bay Area Drainage Improvements

Such bids addressed to the Eastham Department of Public Works and endorsed Bid for the Route 6/Salt Pond Bay Area Drainage Improvements will be received at the Eastham Department of Public Works until TIME on DATE at which time and place said bids will be publicly opened and read aloud.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that this bid shall be good and may not be withdrawn for a

period of 30 days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids.

2. Location and Work to be Done

The location, general characteristics, and principal details of the Work are indicated on a set of 12 drawings titled "Route 6/Salt Pond Bay Area Drainage Improvements."

Additional drawings showing details in accordance with which the Work is to be done may be furnished by addendum from time to time during the bidding period by the ENGINEER, and shall then become a part of the Contract Documents.

The CONTRACTOR shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other things necessary to do all work required for the completion of each item of the Work and as herein specified.

The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described but shall include all incidental work necessary or customarily done for the completion of that item.

3. Deposits on Documents

A deposit, in the amount as specified in Section 00100, ADVERTISEMENT FOR BIDS, in cash or check payable to the Town of Eastham will be required on each set of Contract Documents taken. Such deposits will be refunded to all bidders and non-bidders upon the return of said documents in good condition within 30 days after the date of opening of general bids.

To ensure refund of the deposit, Contract Documents (except documents submitted by bidders) must be returned to the Town of Eastham and be accompanied by a letter of transmittal.

4. Preparation of Bid

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and endorsed with the name of the project as specified in Receipt and Opening of Bids, above.

If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Receipt and Opening of Bids, above.

5. Telegraphic Modification

Any bidder may modify his bid by facsimile transmission at any time prior to the scheduled closing time for receipt of bids, provided such telegraphic communication is received by the OWNER prior to the closing time, and, provided further, the OWNER is satisfied that a written confirmation of the telegraphic modification over the signature of the bidder was mailed prior to the closing time.

The telegraphic communication shall not reveal the bid price but shall provide the addition or subtraction or other modification so that the final prices or terms will not be known by the OWNER until the sealed bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic communication.

6. Obligation of Bidder

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 examine any form, instrument, or document shall in no way relieve any bidder from any obligation in respect of his bid.

7. Information not Guaranteed

All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the OWNER. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

It is agreed and understood that the OWNER does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents.

It is further agreed and understood that no bidder or CONTRACTOR shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or grounds for any claim or demand against the OWNER or the ENGINEER, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other conditions, natural phenomena, existing pipes or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

8. Bid Security

Each bid must be accompanied by a certified check, a bid bond, cash, a treasurer's or cashier's check, payable to the OWNER, in the amount stated in Section 00100, ADVERTISEMENT FOR BIDS. Such deposits will be returned to all except the three lowest responsible and eligible bidders within five days, Saturdays, Sundays, and legal holidays excluded, after the opening of bids, and the remaining deposits will be returned

promptly after the OWNER and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within 30 days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

9. Time for Completion

The bidder must agree to commence work on or before a date to be specified in the written "Notice to Proceed" from the OWNER and to fully complete the project within the time limit stated in Section 00410, FORM OF GENERAL BID.

10. Addenda and Interpretations

No interpretation of the meaning of the plans, specifications or other prebid documents will be made to any bidder orally. All information given to bidders other than by means of the plans, specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the OWNER or the ENGINEER.

Every request for such interpretation should be in writing (typed, not handwritten) addressed to Weston & Sampson Engineers, Inc., 5 Centennial Drive, Peabody, Massachusetts 01960 Attention: CSD, or sent via FAX to Weston & Sampson at (978) 977-0100 and to be given consideration must be received at least ten working days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, when issued, will be mailed by certified mail with return receipt requested to all prospective bidders who have not already received them at the respective address furnished by them for such purposes. Bidders picking up sets of bid documents will be given all addenda issued to date and will be required to sign for all documents, acknowledging receipt. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

11. Bid Opening Procedure

The following list of requirements shall be met by each filed bid.

Bids shall be filed at the place and before the time specified in Receipt and Opening of Bids, above.

Bid signatures will be checked.

All bidders shall include with their bids written acknowledgment of receipt of all addenda. Refer to acknowledgment form provided in Section 00410, FORM OF GENERAL BID.

The total dollar amount of each bid will be read, and the three apparent lowest bids will be selected for further consideration. These three apparent low bids will be read aloud for the benefit of the other bidders and the bid opening procedure will be closed. All those present

at the bid opening may examine all bids after the bid opening and after the reading of the three apparent low bids.

12. Comparison of Bids

Bids will be compared on the basis of the quantities and unit and lump sum prices stated in the bid forms.

In the event that there is a discrepancy in Section 00410, FORM OF GENERAL BID between the lump sum or unit prices written in words and figures, the prices written in words will govern.

The OWNER agrees to examine and consider each FORM OF GENERAL BID submitted in consideration of the bidder's agreements, as herein above set forth and as set forth in Section 00410, FORM OF GENERAL BID.

13. Statutes Regulating Competitive Bidding

Any bid, which does not comply with the provisions of Massachusetts General Laws Chapter 30, Section 39M as amended, need not be accepted and the OWNER may reject every such bid.

14. Right to Reject Bid

The OWNER may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids, should the OWNER deem it to be in the public interest to do so.

The OWNER may also reject bids which in its sole judgment are either incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities, or the OWNER may waive such omissions, conditions or irregularities.

15. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the OWNER that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to prosecute and complete the work successfully within the time named. The OWNER's decision or judgment on these matters will be final, conclusive, and binding.

The OWNER may make such investigations as he deems necessary, and the bidder shall furnish to the OWNER, under oath if so required, all such information and data for this purpose as the OWNER may request.

16. Conditions of Work

Each bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. 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 his contract. Insofar as possible the CONTRACTOR, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

17. Security for Faithful Performance

Simultaneously with his delivery of the executed Contract, the CONTRACTOR shall furnish a surety bond or bonds as security for faithful performance of this Contract and for the payment of all persons performing labor and materials under this Contract as specified in Section 00700, GENERAL CONDITIONS included herein. The surety on such bond or bonds shall be a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the OWNER. The bonds shall remain in force for one year after final acceptance of the work by the OWNER, unless the OWNER, in writing, releases the CONTRACTOR from the obligation sooner.

18. Power of Attorney

Attorneys-in-fact who sign Contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

19. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full. Attention is directed to Section 00830 and to other applicable sections of this specification.

20. Liquidated Damages for Failure to Enter into Contract

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within 10 days after he/she has received notice of the acceptance of his/her bid, shall forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with his/her bid, provided that the amount forfeited shall not exceed the difference between his/her bid price and the bid price of the next lowest responsible and eligible bidder. In case of death, disability, bonafide clerical or mechanical error of a substantial nature, or other similar unforeseen circumstances affecting the bidder, his/her bid deposit will be returned.

21. Items and Indeterminate Items

The work to be done under this Contract has been divided into parts or items to enable each bidder to bid on different portions of the work in accordance with his estimate of their cost

and so that the actual quantity of work executed under each item may be paid for at the price bid for that particular item, even though each bidder may have judged that such quantity may be greater or less than the estimated quantity stated in Section 00410, FORM OF GENERAL BID.

22. CONTRACTOR Records

The CONTRACTOR shall comply with the provisions of Massachusetts General Laws, Chapter 30, Section 39R, concerning CONTRACTOR records. This section has been reprinted in Section 00830, STATE REGULATIONS.

23. Bidders Qualifications

A. It is the purpose of the OWNER not to award this Contract to any bidder who does not furnish satisfactory evidence that he has ability and experience in this class of work and he has sufficient capital to enable him to prosecute the work successfully and to complete it in the time named. The Owner's decision or judgment on these matters shall be final, conclusive and binding.

B. Bidder must be pre-qualified by Massachusetts Highway Department showing that bidder has the ability to perform the work required. Any bid submitted without such pre-qualification shall be invalid.

C. The Owner may make such investigations as he deems necessary to determine the ability of the bidder to perform the work.

D. No award will be made to any bidder who cannot meet all of the following requirements:

1. He shall not have defaulted on any contract within three years prior to the bid date.
2. He shall maintain a permanent place of business.
3. He shall have adequate personnel and equipment to perform the work expeditiously.
4. He shall have suitable financial status to meet obligations incident to the work.
5. He shall be registered with the Secretary of State to do the business in Massachusetts.
6. He shall not have failed to perform satisfactorily on contracts of similar nature.
7. He shall not have failed to complete previous contracts on time.

E. Bidder Certification – OSHA Training

As of July 1, 2006, all employees who work on Massachusetts public works construction sites, on projects estimated to cost more than $10,000, must have no less than ten (10) hours of OSHA-approved safety and health training.

This law will apply to any bid submitted on or after July 1, 2006 and to any contract awarded on or after July 1, 2006.

This law directs the Massachusetts Attorney General to restrain award of construction contracts to any contractor who is in violation of this requirement and to restrain the performance of these contracts by non-complying contractors.

Noncompliance with this law will disqualify contractors from bidding on public contracts.

24. As-Built Drawings

A. During the course of the work the Contractor shall maintain, at the site, a clean set of black line prints of the contract drawings. This set of prints will be marked "Record Drawings" and shall be kept in a clean condition and separate from the drawings in general reference use. On these record drawings, the Contractor shall record all deviations from the work as described in the contract drawings, especially those deviations in utilities work.

B. At the completion of the work, a neat, clean, and complete set of record drawings shall be prepared and submitted to the Owner as a condition precedent to final payment. At his own expense the Contractor shall obtain reproducibles of working drawing sheets from the Owner.

25. Price Adjustment For Hot Mix Asphalt Mixtures

This price adjustment is inserted in this contract because the national and worldwide energy situation has made the future cost of fuel unpredictable. This adjustment will provide for either additional compensation to the Contractor or repayment to the Town of Eastham, depending on an increase or decrease in the average price of liquid asphalt.

This adjustment will be based on fuel usage factors for various items of work developed by the Highway Research Board in Circular 158, dated July 1974. These factors will be multiplied by the quantities of work done in each item during the two-month period and further multiplied by the variance in price from the Base Price to the Period Price.

This provision applies to all hot mix asphalt mixtures containing liquid asphalt.

The Base Price of Liquid Asphalt on this project will be a fixed price and shall be $COST per Ton, which includes State Tax.

The price adjustment will be based on the variance in price for the Liquid Asphalt component only from the Base Price to the Period Price. It shall not include transportation or other charges.

The Period Price for Hot Mix Asphalt for a two month period (FOB Terminal) will be determined and published by the Massachusetts Highway Department (www.mhd.state.ma.us) by averaging the prices posted at the beginning, middle, and end of each two month period by two or more suppliers. **This adjustment will be effected only if the variance from the Base Price is 10% or more for a two-month period.**

The Contract Price of the Hot Mix Asphalt Mixture will be paid under the respective item in the contract. The price adjustment, as herein provided, upwards and downwards, will be made as work is performed, using the most recent previous price adjustment Item until the applicable Period Price is established.

The asphalt content for Hot Mix Asphalt Mixtures shall be 5.5% (0.055) by weight regardless of percentages established by the Job Mix Formula as described in Material Section M3.11.03 of the Standard Specifications.

The Price Adjustment will be a separate payment item. It will be determined by multiplying the number of tons of Hot Mix Asphalt placed during each previous two month period by asphalt content percentage (0.055) times the variance in price between Base Price and Period Price of asphalt.

No price adjustment will be allowed beyond the completion date of this contract, unless there is an approved extension of time by the Town.

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00200 - Instructions for Bidders.doc

SECTION 00410

FORM OF GENERAL BID

Proposal of _____ (hereinafter called "Bidder")*

(__) a corporation, organized and existing under the laws of the State of _____

(__) a partnership

(__) a joint venture

(__) an individual doing business as _____

To the Town of Eastham (hereinafter called "Owner").

Gentlemen:

The Bidder, in compliance with your invitation for bids for Route 6/Salt Pond Bay Area Drainage Improvements, having examined the plans and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the contract documents, as prepared by Weston & Sampson Engineers, Inc., within the time set forth below, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents, of which this proposal is a part.

The Bidder hereby agrees to commence work under this contract on or before a date to be fixed in the written "Notice to Proceed" given by the Owner to the Contractor. The work shall not commence until after DATE. The Bidder hereby agrees to substantially complete the project, with the exception of final pavement, within DURATION consecutive calendar days from the start date fixed in the "Notice to Proceed". The binder course of pavement will be completed in 2010. The final pavement or top course will be installed in the spring of 2011 and completed by April 30, 2011.

The Bidder further agrees to pay as liquidated damages the sum of $1,000 for each consecutive calendar day thereafter during which the work has not been fully completed, as provided in the "Liquidated Damages" paragraph of Section 00800 SUPPLEMENTARY CONDITIONS. The owner anticipates that the "Notice to Proceed" shall be given on or about DATE.

*Insert corporation, partnership, joint venture or individual as applicable.

Bidder acknowledges receipt of the following addenda:

No. Dated:

No. Dated:

No. Dated:

No. Dated:

The Bidder agrees to perform the work described in the specifications and shown on the plans for the following lump sum or unit prices:

TOTAL OF BID $

Item	Unit	Item Description	Quantity
120.1	CY	Unclassified Excavation	180
141.1	CY	Test Pit for Exploration	100
151.	CY	Gravel Borrow	120
170.	SY	Fine Grading And Compacting	520
201.	EA	Catch Basin	2
202.	EA	Manhole	2
205.	EA	Leaching Basin	115
206.	EA	Drop Inlet	2
220	EA	Drainage Structure Adjusted	21
220.3	EA	Drainage Structure Change in Type	2

Item	Unit	Item Description	Quantity
221	EA	Frame and Cover	115
222	EA	Frame and Grate	5
223	EA	Frame and Grate Removed and Reset	5
252.024	LF	24" High Density Polyethylene Leaching Trench	1300
252.12	LF	12" High Density Polyethylene Pipe	330
358.	EA	Gate Box Adjusted (Water/Gas)	2
464.	GAL	Bitumen for Tack Coat	30
472.	TON	Hot Mix Asphalt for Miscellaneous Work	160
482.3	LF	Sawing Asphalt Pavement	1100
504	LF	Granite Curb Type VA4 - Straight	100
580.	LF	Curb Removed and Reset	500
594	LF	Curb Removed and Discarded	100
701.2	SY	Cement Concrete Wheelchair Ramp	$90.00
702.	TON	Hot Mix Asphalt Walk Surface	30
703.	TON	Hot Mix Asphalt Driveway	50
751.	CY	Loam Borrow	320

Item	**Unit**	**Item Description**	**Quantity**
765.	SY	Seeding	2900
874.20	EA	Traffic Sign Removed and Reset	5

The proposed contract price for Base Bid all Items 102. through 999. inclusive is:

_____
_____Dollars
and _____ Cents ($_____).

All entries shall be made clearly in ink or typewritten. Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

The Bidder understands that all bids for this project are subject to the applicable bidding laws of the Commonwealth of Massachusetts, including General Laws Chapter 30, Section 39M, as amended.

The contract will be awarded to the lowest eligible and responsible bidder.

The Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The Bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 days, Saturdays, Sundays and legal holidays excluded, after the opening of bids.

Within 10 days of receipt of the written notice of acceptance of this bid, the Bidder will execute the formal agreement attached in Section 00520 AGREEMENT.

Bid security is attached in the sum of five percent (5%) of the total bid in accordance with the conditions of Section 00100 INSTRUCTIONS TO BIDDERS. The bid security may become the property of the Owner in the event the contract and bond are not executed within the time set forth above.

The selected Contractor shall furnish a performance bond and a payment bond in an amount at least equal to one hundred percent (100%) of the contract prices in accordance with

Section 00610 PERFORMANCE BOND, Section 00615 PAYMENT BOND, and as stipulated in paragraph 5.1 of Section 00700 GENERAL CONDITIONS of these specifications.

The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications.

1. Have been in business under present name for _____ years.

2. The names and addresses of all persons interested in the bid (if made by a partnership or corporation) as Principals, are as follows:

_____

_____

_____

_____

_____

_____

(Attach supplementary list if necessary)

3. 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 (add supplementary page if necessary).

	Completion Date	Project Name	Contract Amount	Design Engineer	Reference Name	Telephone No.
a.						
b.						
c.						
d.						
e.						
f.						

Bank reference

_____
(Name)

_____
(Bank)

_____
(Address)

_____
(Telephone No.)

Pursuant to M.G.L. CH. 62C, Sec 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all State Taxes Required under law.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work.

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section Twenty-Nine F of Chapter Twenty-Nine, or any other applicable debarment provisions of any other Chapter of the General Laws or any rule or regulations promulgated thereunder.

Respectfully submitted:

Date _____ By _____

(Signature)

_____

(Name - Typed or Printed)

_____

(Title)

(SEAL - if bid is by a corporation)

_____

(Business Name)

_____

(Federal ID Number)

_____

(Business Address)

_____

(City and State)

_____

(Telephone Number)

_____

(Fax Number)

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00410 - Form of General Bid.doc

SECTION 00520

AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 2010, by and between the party of the first part, the Town of Eastham hereinafter called "OWNER," acting herein through its Board of Selectman, and the party of the second part, _____ doing business as (a corporation) (a partnership) (a joint venture) (an individual)* located in the (City) (Town)* of _____, County of _____, and State of _____, hereinafter called "CONTRACTOR."

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

ROUTE 6/SALT POND BAY AREA DRAINAGE IMPROVEMENTS

hereinafter called the project, for the sum of _____ Dollars and _____ Cents ($_____) and all extra work in connection therewith, under the terms as stated in the General and Supplementary Conditions; and at his (its or their) own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in Section 00410, FORM OF GENERAL BID, Section 00700, GENERAL CONDITIONS, Section 00800, SUPPLEMENTARY CONDITIONS, Section 00830, STATE REGULATIONS, Section 02000, SPECIAL PROVISIONS, the plans, which include all maps, plates, blue prints, and the specifications and contract documents therefor as prepared by Weston & Sampson Engineers, Inc.

The Bidder hereby agrees to commence work under this contract on or before a date to be fixed in the written “Notice to Proceed” given by the Owner to the Contractor. The road reconstruction work shall not commence until after DATE. The Bidder hereby agrees to substantially complete the project, with the exception of final pavement, within DURATION consecutive calendar days from the start date fixed in the “Notice to Proceed”. The binder course of pavement will be completed in DATE. The final pavement or top course will be installed in DATE and completed by DATE.

The Bidder further agrees to pay as liquidated damages the sum of $1,000 for each consecutive calendar day thereafter during which the work has not been fully completed, as provided in the “Liquidated Damages” paragraph of Section 00800 SUPPLEMENTARY CONDITIONS.

*Strike out inapplicable terms.

The CONTRACTOR shall not discriminate against or exclude any person from participation herein on grounds of race, religion, color, sex, age or national origin; and that it shall take affirmative actions to insure that applicants are employed, and that employees are treated during their employment, without regard to race, religion, color, sex, age, handicapped status, or national origin.

The CONTRACTOR shall not participate in or cooperate with an international boycott, as defined in Section 999 (b)(3) and (4) of the Internal Revenue Code of 1954, as amended, or engage in conduct declared to be unlawful by Section 2 of Chapter 151E of the Massachusetts General Laws.

Applicable provisions of Massachusetts General Laws and Regulations and/or the United States Code and Code of Federal Regulations govern this Agreement and any provision in violation of the foregoing shall be deemed null, void and of no effect. Where conflict between Code of Federal Regulations and State laws and Regulations exist, the more stringent requirement shall apply.

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the Agreement, subject to additions and deductions, as provided in Section 00700, GENERAL CONDITIONS, and to make payments on account thereof as provided in Section 00700, GENERAL CONDITIONS.

IN WITNESS WHEREOF, the parties to these presents have executed this Agreement in six (6) counterparts, each of which shall be deemed an original, in the year and day first above mentioned.

AGREED:

Town of Eastham , Massachusetts
(Owner)

By Its Board of Selectman

_____
(Name)

_____
(Title)

_____
(Name)

_____
(Title)

_____
(Name)

_____
(Title)

_____
(Contractor)

By _____
(Name)

_____
(Title)

_____
(Address)

_____
(City and State)

Approved as to Form:
By_____
(Owner's Counsel)

_____
(Name)

In accordance with M.G.L. C.44, Section 31C, this is to certify that an appropriation in the amount of this Contract is available therefor and that the Board of Selectmen has been authorized to execute the Contract and approve all requisitions and change orders.

By_____
(Owner's Accountant)

_____
(Name)

CERTIFICATE OF VOTE
(to be filed if Contractor is a Corporation)

I, _____, hereby certify that I am the duly qualified and acting Secretary of
(Secretary of Corporation)
_____ and I further certify that a meeting of the Directors of said company,
(Name of Corporation)
duly called and held on _____, at which all members were present and voting, the
(Date of Meeting)
following vote was unanimously passed:

VOTED: To authorize and empower

_____

_____

_____

_____

_____

Anyone acting singly, to execute Forms of General Bid, Contracts or Bonds on behalf of the Corporation.

I further certify that the above vote is still in effect and has not been changed or modified in any respect.

By:_____
(Secretary of Corporation)

A True Copy:

Attest: _____
(Notary Public)

My Commission Expires:_____
(Date)

Contractor's Certification

A Contractor will not be eligible for award of a contract unless such Contractor has submitted the following certification, which is deemed a part of the resulting contract:

CONTRACTOR'S CERTIFICATION

_____

Name of the General Contractor

Certifies that:

1. It intends to use the following listed construction trades in the work under the contract

   _____

   _____

2. Will comply with the minority workforce ratio and specific affirmative action steps contained herein; and

3. Will obtain from each of its subcontractors and submit to the contracting or administering agency prior to the award of any subcontract under this contract the subcontractor's certification required by these bid conditions.

_____

Signature of Authorized
Representative of Contractor

Subcontractor's Certification

Prior to the award of any subcontract, regardless of tier, the prospective subcontractor must execute and submit to the General Contractor the following certification, which will be deemed a part of the resulting subcontract:

SUBCONTRACTOR'S CERTIFICATION

_____

Name of the Subcontractor

certifies that:

1. It intends to use the following listed construction trades in the work under contract

   _____

   _____

2. Will comply with the minority workforce ratio and specific affirmative action steps contained herein; and

3. Will obtain from each of its subcontractors prior to the award of any subcontract under this contract the subcontractor's certification required by these bid conditions.

_____

Signature of Authorized
Representative of Subcontractor

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00520 - Agreement.doc

SECTION 00610
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)

a _____ hereinafter called "Principal" and
(Corporation, Partnership, Joint Venture or Individual)

_____of _____, State of _____
(Surety) (City) (State)

called the "Surety" and licensed by the State Division of Insurance to do business under the laws of the Commonwealth of Massachusetts are held and firmly bound to the Town of Eastham, Massachusetts, hereinafter called "Owner," in the penal sum of _____ Dollars and _____ Cents ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 2010, a copy of which is hereto attached and made a part hereof for the construction described as follows:

ROUTE 6/SALT POND BAY AREA DRAINAGE IMPROVEMENTS

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

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the work or to the specifications. The Surety Company providing the bond shall have a rating of A or better within the Best Key Rating Guide.

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

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2010.

ATTEST:

_____
(Principal)

_____
(Principal Secretary)

By _____

_____

_____
(Address-Zip Code)

_____
(Witness as to Principal)

_____

_____
(Address-Zip Code)

(SEAL)

ATTEST:

_____
(Surety)

By_____
(Attorney-in-Fact)

_____

_____
(Address-Zip Code)

_____ (SEAL)
Witness as to Surety

_____

_____
(Address-Zip Code)

NOTE: If Contractor is a partnership, all partners should execute bond.

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00610 - Performance Bond.doc

SECTION 00615
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____
(Name of Contractor)
a _____hereinafter called "Principal" and
(Corporation, Partnership, JointVenture or Individual)
_____ of _____, State of _____
(Surety) (City) (State)
hereinafter called "Surety" and licensed by the State Division of Insurance to do business under the laws of the Commonwealth of Massachusetts are held and firmly bound to the Town of Eastham, Massachusetts, hereinafter called "Owner," in the penal sum of _____ Dollars and _____ Cents ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the Owner, dated the _____ day of _____, 2012, a copy of which is hereto attached and made a part hereof for the construction described as follows:

ROUTE 6/SALT POND BAY AREA DRAINAGE IMPROVEMENTS

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

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of this contract or to the work or to the specifications. The Surety Company providing the bond shall have a rating of A or better within the Best Key Rating Guide.

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

IN WITNESS WHEREOF, this instrument is executed in six (6) counterparts, each one of which shall be deemed an original, this the _____ day of _____, 2012.

ATTEST: _____
(Principal)

_____
(Principal Secretary)

By _____

_____

_____
(Address-Zip Code)

_____
(Witness as to Principal)

_____

_____
(Address-Zip Code)

(SEAL)

ATTEST:

_____
(Surety)

By_____
(Attorney-in-Fact)

_____

_____
(Address-Zip Code)

_____ (SEAL)
(Witness as to Surety)

_____

_____
(Address-Zip Code)

NOTE: If Contractor is a partnership, all partners should execute bond.

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00615 - Payment Bond.doc

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD
GENERAL CONDITIONS
OF THE
CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN CONSULTING ENGINEERS COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General Contractors of America

Construction Specifications Institute

These General Conditions have been prepared for use with the Owner-Contractor Agreements (No. 1910-8-A-1 or 1910-8-A-2) (1996 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC User's Guide (No. 1910-50). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. 1910-17) (1996 Edition).

EJCDC No. 1910-8 (1996 Edition)

02/18/05

Copyright ©1996

National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314

American Consulting Engineers Council
1015 15th Street N.W., Washington, DC 20005

American Society of Civil Engineers
345 East 47th Street, New York, NY 10017

TABLE OF CONTENTS

Page

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY 6
1.01 Defined Terms 6
1.02 Terminology 8
ARTICLE 2 - PRELIMINARY MATTERS 9
2.01 Delivery of Bonds 9
2.02 Copies of Documents 9
2.03 Commencement of Contract Times; Notice to Proceed 9
2.04 Starting the Work 9
2.05 Before Starting Construction 9
2.06 Preconstruction Conference 9
2.07 Initial Acceptance of Schedules 10
ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE 10
3.01 Intent 10
3.02 Reference Standards 10
3.03 Reporting and Resolving Discrepancies 10
3.04 Amending and Supplementing Contract Documents 11
3.05 Reuse of Documents 11
ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS 11
4.01 Availability of Lands 11
4.02 Subsurface and Physical Conditions 11
4.03 Differing Subsurface or Physical Conditions 12
4.04 Underground Facilities 12
4.05 Reference Points 13
4.06 Hazardous Environmental Condition at Site 13
ARTICLE 5 - BONDS AND INSURANCE 14
5.01 Performance, Payment, and Other Bonds 14
5.02 Licensed Sureties and Insurers 14
5.03 Certificates of Insurance 15
5.04 Contractor's Liability Insurance 15
5.05 Owner's Liability Insurance 15
5.06 Property Insurance 16
5.07 Waiver of Rights 16
5.08 Receipt and Application of Insurance Proceeds 17
5.09 Acceptance of Bonds and Insurance; Option to Replace 17
5.10 Partial Utilization, Acknowledgment of Property Insurer 17
ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES 17
6.01 Supervision and Superintendence 18
6.02 Labor; Working Hours 18
6.03 Services, Materials, and Equipment 18
6.04 Progress Schedule 18
6.05 Substitutes and "Or-Equals" 18
6.06 Concerning Subcontractors, Suppliers, and Others 20
6.07 Patent Fees and Royalties 20
6.08 Permits 21
6.09 Laws and Regulations 21
6.10 Taxes 21
6.11 Use of Site and Other Areas 21
6.12 Record Documents 22
6.13 Safety and Protection 22
6.14 Safety Representative 22
6.15 Hazard Communication Programs 22

6.16 Emergencies 22
6.17 Shop Drawings and Samples 22
6.18 Continuing the Work 23
6.19 Contractor's General Warranty and Guarantee 24
6.20 Indemnification 24
ARTICLE 7 - OTHER WORK 24
7.01 Related Work at Site 24
7.02 Coordination 25
ARTICLE 8 - OWNER'S RESPONSIBILITIES 25
8.01 Communications to Contractor 25
8.02 Replacement of Engineer 25
8.03 Furnish Data 25
8.04 Pay Promptly When Due 25
8.05 Lands and Easements; Reports and Tests 25
8.06 Insurance 25
8.07 Change Orders 25
8.08 Inspections, Tests, and Approvals 25
8.09 Limitations On OWNER's Responsibilities 26
8.10 Undisclosed Hazardous Environmental Condition 26
8.11 Evidence of Financial Arrangements 26
ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION 26
9.01 Owner's Representative 26
9.02 Visits to Site 26
9.03 Project Representative 26
9.04 Clarifications and Interpretations 26
9.05 Authorized Variations in Work 26
9.06 Rejecting Defective Work 27
9.07 Shop Drawings, Change Orders and Payments 27
9.08 Determinations for Unit Price Work 27
9.09 Decisions on Requirements of Contract Documents and Acceptability of Work 27
9.10 Limitations on Engineer's Authority and Responsibilities 27
ARTICLE 10 - CHANGES IN THE WORK; CLAIMS 27
10.01 Authorized Changes in the Work 27
10.02 Unauthorized Changes in the Work 28
10.03 Execution of Change Orders 28
10.04 Notification to Surety 28
10.05 Claims and Disputes 28
ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK 29
11.01 Cost of the Work 29
11.02 Cash Allowances 30
11.03 Unit Price Work 30
ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES 31
12.01 Change of Contract Price 31
12.02 Change of Contract Times 32
12.03 Delays Beyond Contractor's Control 32
12.04 Delays Within Contractor's Control 32
12.05 Delays Beyond Owner's And Contractor's Control 32
12.06 Delay Damages 32
ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK 32
13.01 Notice of Defects 32
13.02 Access to Work 32
13.03 Tests and Inspections 32
13.04 Uncovering Work 33

13.05 Owner May Stop the Work....33
13.06 Correction or Removal of Defective Work....33
13.07 Correction Period....33
13.08 Acceptance of Defective Work....34
13.09 Owner May Correct Defective Work....34
ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION....34
14.01 Schedule of Values....34
14.02 Progress Payments....34
14.03 Contractor's Warranty of Title....36
14.04 Substantial Completion....36
14.05 Partial Utilization....37
14.06 Final Inspection....37
14.07 Final Payment....37
14.08 Final Completion Delayed....38
14.09 Waiver of Claims....38
ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION....38
15.01 Owner May Suspend Work....38
15.02 Owner May Terminate For Cause....38
15.03 Owner May Terminate For Convenience....39
15.04 Contractor May Stop Work or Terminate....39
ARTICLE 16 - DISPUTE RESOLUTION....39
16.01 Methods and Procedures....39
ARTICLE 17 - MISCELLANEOUS....39
17.01 Giving Notice....39
17.02 Computation of Times....39
17.03 Cumulative Remedies....39
17.04 Survival of Obligations....40
17.05 Controlling Law....40

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

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

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

* 12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective,

but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

* 19. *ENGINEER*--The individual or entity named as such in the Agreement.

* 20. *ENGINEER's Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

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

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

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

** 30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

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

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

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

* 41. *Specifications*--~~That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.~~

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

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

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

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

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. *Intent of Certain Terms or Adjectives*

1. Whenever in the Contract Documents the terms "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. *Day*

1. The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. *Furnish, Install, Perform, Provide*

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

2. The word "install," when used in connection with services, materials, or equipment, shall

mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

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

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

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

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed *

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

2.04 Starting the Work

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

2.05 Before Starting Construction

A. *CONTRACTOR's Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

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

2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

***** C. *Evidence of Insurance:* ~~Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.~~

2.06 Preconstruction Conference

A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 Initial Acceptance of Schedules

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor.

2. CONTRACTOR's schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 Intent

* A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 Reference Standards

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

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER's Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. *Reporting Discrepancies*

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or

discrepancy between the provisions of the Contract Documents and:

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

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

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER's approval of a Shop Drawing or Sample; or (iii) ENGINEER's written interpretation or clarification.

3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER's furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

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

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

4.02 Subsurface and Physical Conditions

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

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

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

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

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any

such other data, interpretations, opinions, or information.

4.03 Differing Subsurface or Physical Conditions

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

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

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

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.
**

B. *ENGINEER's Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

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

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 Underground Facilities

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable *adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or *indicated ~~or not shown or indicated with reasonable accuracy~~ in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 Reference Points

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.*

4.06 Hazardous Environmental Condition at Site

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those* reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents. *

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

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

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

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in

writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.E shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents. *

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 Certificates of Insurance

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to *purchase and maintain. ~~OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.~~

5.04 CONTRACTOR's Liability Insurance

* A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).*

~~*5.05* OWNER's Liability Insurance~~

~~* A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect~~

~~OWNER against claims which may arise from operations under the Contract Documents.~~

~~*5.06* Property Insurance~~

~~* A. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:~~

~~1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;~~

~~2. be written on a Builder's Risk "all risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;~~

~~3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);~~

~~4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;~~

~~5. allow for partial utilization of the Work by OWNER;~~

~~6. include testing and startup; and~~

~~7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.~~

~~* B. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.~~

~~* C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.~~

~~* D. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.~~

~~* E. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the Site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.~~

5.07 Waiver of Rights

* A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each

other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance * ~~held by OWNER as trustee or~~ otherwise payable under any policy so issued.

B. OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of, or resulting from fire or other peril whether or not insured by OWNER; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.05, after Substantial Completion pursuant to paragraph 14.04, or after final payment pursuant to paragraph 14.07.

C. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against CONTRACTOR, Subcontractors, ENGINEER, or ENGINEER's Consultants and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

5.08 Receipt and Application of Insurance Proceeds

* ~~A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.~~

* ~~B. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.~~

5.09 Acceptance of Bonds and Insurance; Option to Replace

* ~~A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.~~

5.10 Partial Utilization, Acknowledgment of Property Insurer

A. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 Supervision and Superintendence

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

* ~~B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.~~

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

*

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. *"Or-Equal" Items:* If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;

b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

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

E. *ENGINEER's Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR's Expense:* CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR's expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

** F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 Patent Fees and Royalties

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 Permits

** A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 Laws and Regulations

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in paragraph 10.05.

** *6.10* Taxes

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

***6.11* Use of Site and Other Areas

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

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

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

C. *Cleaning:* Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall

CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

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

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

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

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 Hazard Communication Programs

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

6.16 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 Shop Drawings and Samples

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the

submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. *ENGINEER's Review*

* 1. ENGINEER will ~~timely~~ review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. *Resubmittal Procedures*

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR's General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. normal wear and tear under normal usage.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;

2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;

4. use or occupancy of the Work or any part thereof by OWNER;

5. any acceptance by OWNER or any failure to do so;

6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;

7. any inspection, test, or approval by others; or

8. any correction of defective Work by OWNER.

6.20 Indemnification

* ~~A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:~~

~~1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and~~

~~2. is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such individual or entity.~~

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

* ~~C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:~~

~~1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or~~

~~2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.~~

ARTICLE 7 - OTHER WORK

7.01 Related Work at Site

A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and

2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 Coordination

A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 Communications to Contractor

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 Replacement of ENGINEER

A. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer to whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 Furnish Data

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 Pay Promptly When Due

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 Lands and Easements; Reports and Tests

A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 Insurance

***** ~~A. OWNER's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.~~

8.07 Change Orders

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 Inspections, Tests, and Approvals

A. OWNER's responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.09 Limitations on OWNER's Responsibilities

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 Undisclosed Hazardous Environmental Condition

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.11 Evidence of Financial Arrangements

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 OWNER'S Representative

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

*****

9.02 Visits to Site

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 Project Representative

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 Clarifications and Interpretations

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

******

9.05 Authorized Variations in Work

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.

9.06 Rejecting Defective Work

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 Shop Drawings, Change Orders and Payments

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

9.08 Determinations for Unit Price Work

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 Decisions on Requirements of Contract Documents and Acceptability of Work

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 Limitations on ENGINEER's Authority and Responsibilities

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 Authorized Changes in the Work

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable

conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 Unauthorized Changes in the Work

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 Execution of Change Orders

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 Notification to Surety

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 Claims and Disputes

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 60 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER's Decision:* ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER's decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

**

11.01 Cost of the Work

~~A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.~~

~~1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.~~

~~2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.~~

~~3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.~~

~~4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.~~

~~5. Supplemental costs including the following:~~

~~a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.~~

~~b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.~~

~~c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.~~

~~d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.~~

~~e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.~~

~~f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by~~

~~CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.~~

~~g. The cost of utilities, fuel, and sanitary facilities at the Site.~~

~~h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.~~

~~i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.~~

~~j. When all the Work is performed on the basis of cost plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.~~

~~B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:~~

~~1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.~~

~~2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.~~

~~3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.~~

~~4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.~~

~~5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.~~

~~C. *CONTRACTOR's Fee:* When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.~~

~~D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.~~

~~*11.02* Cash Allowances~~

~~A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:~~

~~1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and~~

~~2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.~~

~~B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.~~

~~*11.03* Unit Price Work~~

~~A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the~~

~~Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.~~

~~B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.~~

*****

~~C. OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Price in accordance with paragraph 10.05 if:~~

~~1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and~~

~~2. there is no corresponding adjustment with respect any other item of Work; and~~

~~3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.~~

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

******

~~A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.~~

~~B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:~~

~~1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or~~

~~2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or~~

~~3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).~~

~~C. *CONTRACTOR's Fee:* The CONTRACTOR's fee for overhead and profit shall be determined as follows:~~

~~1.a mutually acceptable fixed fee; or~~

~~2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:~~

a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;

~~b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;~~

~~c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;~~

~~d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;~~

~~e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and~~

~~f. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.~~

12.02 Change of Contract Times

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this* Article 12.

12.03 Delays Beyond CONTRACTOR's Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 Delays Within CONTRACTOR's Control

A. The Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 Delays Beyond OWNER's and CONTRACTOR's Control

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 Delay Damages

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or

2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 Notice of Defects

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 Access to Work

A. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 Tests and Inspections

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other

representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 Uncovering Work

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 OWNER May Stop the Work

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 Correction or Removal of Defective Work

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 Correction Period
*****

~~A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such~~

~~removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.~~

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 Acceptance of Defective Work

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 OWNER May Correct Defective Work

***** A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. *Applications for Payments*

1. At least 20 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment

filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

* ~~3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.~~

B. *Review of Applications*

** ~~1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.~~

2. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

C. *Payment Becomes Due*
*

1. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.

**

D. *Reduction in Payment*

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

c. there are other items entitling OWNER to a set-off against the amount recommended; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 CONTRACTOR's Warranty of Title

* ~~A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.~~

14.04 Substantial Completion

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 Partial Utilization

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 Final Inspection

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 Final Payment

A. *Application for Payment*

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. *Review of Application and Acceptance*

** ~~1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will~~

~~return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.~~

C. *Payment Becomes Due*

1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 OWNER May Suspend Work

**** ~~A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.~~

15.02 OWNER May Terminate for Cause

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07 as adjusted from time to time pursuant to paragraph 6.04);

2. CONTRACTOR's disregard of Laws or Regulations of any public body having jurisdiction;

3. CONTRACTOR's disregard of the authority of ENGINEER; or

4. CONTRACTOR's violation in any substantial way of any provisions of the Contract Documents.

*

B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order.

When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 OWNER May Terminate For Convenience

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 CONTRACTOR May Stop Work or Terminate

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 Methods and Procedures

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 Giving Notice

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 Computation of Times

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 Cumulative Remedies

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 Survival of Obligations

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 Controlling Law

A. This Contract is to be governed by the law of the state in which the Project is located.

***** ******

SECTION 00800

SUPPLEMENTARY CONDITIONS

TABLE OF CONTENTS

Article Number	Title
1	DEFINITIONS AND TERMINOLOGY
2	PRELIMINARY MATTERS
3	CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE
4	AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS
5	BONDS AND INSURANCE
6	CONTRACTOR'S RESPONSIBILITIES
8	OWNER'S RESPONSIBILITIES
9	ENGINEER'S STATUS DURING CONSTRUCTION
11	COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK
12	CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES
13	TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK
14	PAYMENTS TO CONTRACTOR AND COMPLETION
15	SUSPENSION OF WORK AND TERMINATION
17	MISCELLANEOUS

SUPPLEMENTARY CONDITIONS

AMENDMENTS TO GENERAL CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1. DEFINITIONS AND TERMINOLOGY

Add the following language at the beginning of definition 1.01 A.12 entitled "Contract Documents" in the General Conditions:

> "The Advertisement for Bids, Instructions to Bidders, State Regulations, ..."

Delete the words "The individual or entity named as such in the Agreement" in 1.01.A.19 and insert the following in their place:

> "The individual or entity duly appointed by the Owner to undertake the duties and powers herein assigned to the Engineer, acting either directly or through duly appointed representatives."

Delete the words "and who is identified as such in the Supplementary Conditions" at the end of definition 1.01 A.20, entitled "ENGINEER'S Consultant."

Delete definition 1.01 A.41 entitled "Specifications" in the General Conditions in its entirety and insert the following in its place:

> "Sections included under Division 1 through Division 2 of the Contract Documents."

ARTICLE 2. PRELIMINARY MATTERS

SC-2.03

Add paragraph 2.03B:

Notwithstanding the time limitations provided in paragraph 2.03A, the OWNER may desire to commence the Contract Times later than the sixtieth day after the bid opening. The OWNER and CONTRACTOR, upon mutual agreement, may extend the commencement of the Contract Times to any date that they elect. OWNER must obtain CONTRACTOR’s approval for extending the time beyond the dates/times stated in the Contract Documents.

Delete paragraph 2.05C of the General Conditions in its entirety and insert the following in its place:

"C. Evidence of Insurance: CONTRACTOR shall deliver to OWNER, with a copy to the ENGINEER, Certificates of Insurance within 10 days after receipt of the notice of the acceptance of bid (and other evidence requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with the requirements of Article 5."

ARTICLE 3. CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

SC-3.01

Add the following sentence at the end of Paragraph 3.01A of the General Conditions:

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

ARTICLE 4. AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

SC-4.02

Delete the term "Supplementary Conditions" of paragraph 4.02 A of the General Conditions and replace it with "Contract Documents".

SC-4.04

Change "of" to "or" on line 6 of paragraph 4.04 B.2 of the General Conditions.

Delete the following words from lines 8 and 9 of paragraph 4.04 B.2 of the General Conditions:

> "...or not shown or indicated with reasonable accuracy..."

SC-4.05

Add a new paragraph immediately after paragraph 4.05A of the General Conditions which is to read as follows:

"B. ENGINEER may check the lines, elevations and reference marks set by CONTRACTOR, and CONTRACTOR shall correct any errors disclosed by such check. Such a check shall

not be considered as approval of CONTRACTOR's work and shall not relieve CONTRACTOR of the responsibility for construction of the entire Work in accordance with

the Contract Documents. CONTRACTOR shall furnish personnel to assist ENGINEER in checking lines and grades."

ARTICLE 5. BONDS AND INSURANCE

NOTICE TO CONTRACTOR:

1. Proof of Insurance coverage shall be furnished to the OWNER in accordance with the schedule for submittal of Bonds and Agreements.

2. Additionally refer to Article 2. PRELIMINARY MATTERS, Paragraph SC-2.05.C

SC-5.01

Insert these sentences following SC-5.01.A: The Surety Company providing the bonds shall have a rating of A or better within the Best Key Rating Guide and be licensed by the Massachusetts Division of Insurance. The Contractor shall pay the premiums for such Bonds.

SC-5.03

Delete the second sentence in paragraph 5.03A of the General Conditions, which begins "OWNER shall deliver to...."

SC-5.04

The limits of liability for the insurance required by paragraph 5.04A of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

5.04 A.1 and 5.04 A.2 Workers' Compensation.

(1)	Worker's Compensation per	Statutory Requirements
(2)	Coverage B - Employer's Liability	$100,000/$500,000/$100,000

5.04 A.3, 5.04 A.4 and 5.04 A.5 Commercial General Liability Limits shall include Coverage for independent Contractors, Personal Injury, Owners and Contractors Protective Liability, Explosion, Underground and Collapse, Broad Form Property Damage, Blanket Contractual Liability per location/project endorsement

Commercial General Liability	$1,000,000/$2,000,000
Products/completed Operations	$2,000,000 Aggregate

5.04 A.6 Automobile Liability for owned, hired and non-owned vehicles:

(1)	Bodily injury:	$1,000,000	Combined single

			limit
(2)	Property damage	$1,000,000	Combined single limit

A. Engineer and Owner shall be named as Additional Insured, and so stated on contractors General Liability and Umbrella Liability certificates of insurance.

The Contractual Liability required by paragraph 5.04B.4 of the General Conditions shall provide coverage for not less than the following amounts:

(1)	Bodily injury:	$1,000,000 $1,000,000	Each occurrence Annual aggregate
(2)	Property damage, including explosion, collapse and underground coverage:	$1,000,000 $1,000,000	Each occurrence Annual aggregate

SC-5.04

Add two new paragraphs immediately after paragraph 5.04B of the General Conditions which are to read as follows:

"C. The CONTRACTOR shall also provide:

1. CONTRACTOR shall, as a minimum, purchase and maintain excess liability insurance in the umbrella form with a combined single limit of not less than $5,000,000 per claim and in the aggregate. Evidence of such excess liability shall be delivered to OWNER in accordance with paragraph 2.05C in the form of a certificate indicating the policy numbers and limits of liability of all underlying insurance.

A. General Liability, Workers' Compensation, Automobile Liability and Umbrella Liability Policies will contain waivers of subrogation in favor of the Engineer and Owner.

2. If the aggregate limits of liability indicated in CONTRACTOR' insurance provided in accordance with paragraphs 5.03 and 5.04 are not sufficient to cover all claims for damages arising from his operations under this Contract and from any other work performed by him or if policies of insurance do not provide that the aggregate limits of liability for bodily injury and property damage apply to each contract or project separately, CONTRACTOR shall have such policies amended so that the aggregate limits of liability required by this Contract will be available to cover all claims for damages due to operations under this Contract."

SC-5.05

Delete paragraph 5.05 of the General Conditions in its entirety.

SC-5.06

Delete Paragraph 5.06 A of the General Conditions in its entirety and insert the following in its place:

"A. CONTRACTOR shall purchase and maintain, until final payment, property insurance upon

the Work at the site in an amount equal to the total bid price for the completed construction. This insurance shall include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER and ENGINEER'S consultants in the Work, shall insure against the perils of fire and extended coverage, shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and shall include damages, losses and expenses rising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). This insurance shall be provided on the completed value form. If not covered under the "all risk" insurance or otherwise provided in these Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment." A $20,000 deductible shall be acceptable. Any other deductible amount shall be approved in advance by the OWNER and any deductible amount shall be borne by the CONTRACTOR.

Delete paragraph 5.06B of the General Conditions in its entirety.

Delete Paragraph 5.06C of the General Conditions in its entirety and insert the following in its place:

"C. All the policies of insurance (or the certificates or other evidence thereof) required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least thirty days' prior written notice has been given to OWNER by certified mail and will contain waiver provisions in accordance with paragraph 5.07B. The words "Endeavor to" shall be struck from the Certificate Of Insurance in the Cancellation Statement"

Delete paragraph 5.06D of the General Conditions in its entirety.

Delete paragraph 5.06E of the General Conditions in its entirety.

SC-5.07

Amend the last sentence of paragraph 5.07A of the General Conditions by striking out the words "held by OWNER as trustee or." As so amended, paragraph 5.07A remains in effect.

SC-5.08

Delete paragraph 5.08A of the General Conditions in its entirety.

Delete paragraph 5.08B of the General Conditions in its entirety.

SC-5.09

Delete paragraph 5.09A of the General Conditions in its entirety and insert the following in its place:

"A. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with this Article 5 on the basis of its not complying with the Contract Documents, OWNER will notify CONTRACTOR in writing thereof within thirty days of the date of delivery of such certificates to OWNER in accordance with paragraph 2.05C. CONTRACTOR will provide such additional information in respect of insurance provided by him as OWNER may reasonably request."

ARTICLE 6. CONTRACTOR'S RESPONSIBILITIES

SC-6.01

Delete paragraph 6.01B of the General Conditions in its entirety and replace with the following:

"B. At the site of the Work the CONTRACTOR shall employ a full-time construction superintendent or foreman who shall have full authority to act for the CONTRACTOR. It is understood that such representative shall be acceptable to the ENGINEER and shall be one who will be continued in the capacity for the particular job involved unless the representative ceases to be on the CONTRACTOR's payroll. If at any time during the Work the representative is deemed by the ENGINEER to be no longer acceptable, the representative shall be promptly replaced by the CONTRACTOR. All communications to the superintendent shall be as binding as if given to the CONTRACTOR."

SC-6.04

Add the following paragraph after paragraph 6.04A.2 of the General Conditions:

"B. The CONTRACTOR's resident superintendent shall attend monthly progress meetings at the site of the work with the ENGINEER and others as appropriate to review schedule status and such other pertinent subjects as may be listed on the agenda by the ENGINEER."

SC-6.05

Revise the second sentence of Paragraph A to read as follows:

“Unless the specification indicates that a proprietary item is called for, other items of material or equipment or material or equipment of other suppliers may be submitted to ENGINEER for review under the circumstances described below.”

SC-6.17

In paragraph 6.17 E.1 of the General Conditions, delete the word “timely” from the first line.

SC-6.20

Delete paragraph 6.20A of the General Conditions in its entirety and replace with the following:

"A. To the fullest extent permitted by law, the CONTRACTOR shall indemnify and hold harmless the OWNER, the ENGINEER, ENGINEER's consultants, and any of their officers, directors, employees, agents, affiliates, subsidiaries and partners from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by acts or omissions of the CONTRACTOR, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall apply to any such claims, damages, losses and expenses which arise and/or are incurred by any person or entity either during the performance of the Work and/or after completion of construction. Nothing in this paragraph shall be construed to negate, abridge, or reduce other rights or obligations of indemnity or contribution which would otherwise exist as to a party or person indemnified hereunder. CONTRACTOR hereby assumes the responsibility and liability for injury to or death of any and all persons, including the CONTRACTOR's employees, and for any and all damage to property caused by, resulting from, or arising out of any act, omission or neglect on the part of the CONTRACTOR, or of any Subcontractor or of anyone directly or indirectly employed by any of them or of anyone for whose acts, any of them may be liable. The Contractor hereby acknowledges its obligation under the foregoing paragraph to indemnify the Engineer and Owner against judgements suffered because of the contractor's work and to assume the cost of defending the Engineer and Owner against claims as described in the foregoing paragraph."

Delete paragraph 6.20C of the General Conditions in its entirety.

ARTICLE 8. OWNER'S RESPONSIBILITIES

SC-8.06

Delete paragraph 8.06A of the General Conditions in its entirety.

ARTICLE 9. ENGINEER'S STATUS DURING CONSTRUCTION

SC-9.01

Add a new paragraph 9.01B after paragraph 9.01A of the General Conditions, which is to read as follows:

"B. Nothing contained in the Contract Documents shall be construed to create a contractual relationship of any kind (1) between the ENGINEER and CONTRACTOR, (2) between the OWNER and a Subcontractor or Subcontractors, or (3) between any person or entities other than the OWNER and CONTRACTOR. The ENGINEER shall, however, be entitled to performance and enforcement of obligations under the CONTRACT DOCUMENTS intended to facilitate performance of the ENGINEER'S duties."

ARTICLE 11. COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

Delete Article 11 of the General Conditions in its entirety and replace with the following:

"A. The unit price of an item of Unit Price work shall be subject to reevaluation and adjustment under the following conditions:

(1) If the total extended bid price [Estimated Quantity times the Bid Unit Price] of a particular item of Unit Price Work amounts to 5 percent or more of the Original Contract Price and the variation in the quantity of the particular item of Unit Price Work performed by CONTRACTOR differs by more than 15 percent from the estimated quantity of such item indicated in the Agreement;
and

(2) If there is no corresponding adjustment with respect to any other item of work; and

(3) If CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 11 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed. If OWNER believes that the quantity variation entitles OWNER to an adjustment in the unit price, OWNER shall be entitled to an adjustment in the unit price in an amount determined by the ENGINEER. ENGINEER shall not be liable in connection with any determination relating to adjustments which is rendered in good faith."

ARTICLE 12. CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

SC-12.01

Delete paragraph 12.01 in its entirety.

SC-12.06

Add the following new paragraphs after paragraph 12.06 of the General Conditions:

"12.07 Liquidated Damages:

A. If the CONTRACTOR shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the OWNER, then the CONTRACTOR does hereby agree, as a part consideration for the awarding of this Contract, to pay to the OWNER the amount specified in the Contract, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth, for each and every calendar day that the Contract shall be in default after the time stipulated in the Contract for completing the work. Such damages may be retained from time to time by the OWNER from progress payments or any amounts owing to the CONTRACTOR, or otherwise collected.

B. The said amount is fixed and agreed upon by and between the CONTRACTOR and the OWNER because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the OWNER would in such event sustain, and said amount is agreed to be the amount of damages which the OWNER would sustain and said amount shall be retained from time to time by the OWNER from current periodical estimates.

C. It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein as definite and certain length of times if 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 of 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:

1) to any preference, priority or allocation order duly issued by the Government;

2) to 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, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather; and

3) to any delays of subcontractors or suppliers occasioned by any of the causes specified in subsections C (1) and C (2) above;

D. Provided, further, that the CONTRACTOR shall, within thirty (30) days from the beginning of such delay, unless the OWNER shall grant a further period of time prior to the date of final settlement of the Contract, notify the OWNER, in writing, of the causes of the delay, who shall ascertain the facts and extent of the delay and notify the CONTRACTOR within a reasonable time of its decision in the matter."

ARTICLE 13. TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

SC-13.07

Delete paragraph 13.07A of the General Conditions and insert the following in its place:

"A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) correct such defective work, or, if it has been rejected by OWNER, remove it from the site and replace it with work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other work or the work of others therefrom. If CONTRACTOR does not begin the repairs within ten (10) days of receipt of written notification and promptly comply with the terms of OWNER's written instructions, or in an emergency where delay would cause serious risk, loss or damage, OWNER may have the defective work corrected or the rejected work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR."

SC-13.09

Revise paragraph 13.09A of the General Conditions

A. Delete the word "seven" and replace it with the word "ten" so that it reads "after ten days written notice to CONTRACTOR."

ARTICLE 14. PAYMENTS TO CONTRACTOR AND COMPLETION

SC-14.02

Delete paragraph 14.02A.3 and insert the following in its place:

"3. Retainage with respect to progress payments will be five percent or, if stipulated, the maximum allowed by law."

Add Paragraph 4. to read as follows:

"4. The CONTRACTOR shall submit Weekly Payroll Records Report and Statement of Compliance verifying compliance with the Minimum Prevailing Wage Law, MGL ch. 149, Sections 26-27H. These Statements of Compliance shall be submitted as a condition of payment for work performed during the period the reports apply."

SC-14.03

Delete paragraph 14.03A in its entirety and insert the following in its place:

"A. CONTRACTOR warrants and guarantees that title to all work, material and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than at the time of Application for Payment free and clear of all liens. CONTRACTOR shall provide written transfer of title and a certified paid invoice provided by the supplier."

ARTICLE 15. SUSPENSION OF WORK AND TERMINATION

SC-15.02

Add a new paragraph immediately after paragraph 15.02 A.4 of the General Conditions which is to read as follows:

"5. If the Work to be done under this Contract shall be abandoned, or if this Contract or any part thereof shall be sublet, without the previous written consent of OWNER, or if the contract or any claim thereunder shall be assigned by CONTRACTOR otherwise than as herein specified;"

ARTICLE 17. MISCELLANEOUS

SC-17.06, 17.07, 17.08, 17.09

Add the following new paragraphs after paragraph 17.05 of the General Conditions:

"17.06 Assignment:

A. The CONTRACTOR shall not assign the whole or any part of this Contract or any moneys due or to become due hereunder until thirty (30) days prior notice in writing has been given to the OWNER of the intention to assign, which notice shall state the identity and address of the prospective assignee. No assignment shall be made without the OWNER's prior written consent. Such consent shall not be unreasonably withheld. In case the CONTRACTOR assigns all or any part of the moneys due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any moneys due or to become due to the CONTRACTOR shall be subject to prior claims of all persons, firms and corporations of services rendered or materials supplied for the performance of the work called for in this Contract."

17.07 Liability

It is understood and agreed that members of the OWNER or the ENGINEER or any agent or employees of the OWNER signing this Agreement shall not be personally liable hereunder for any action incurred in connection with this Agreement.

17.08 State Statutes and Regulations

See Section 00830 for further modifications of the General Conditions due to state statutes and regulations.

17.09 Severability

If any provision of this Agreement shall be invalid or unenforceable to any extent or in any application, then the remainder of this Agreement and of such terms and conditions, except to such extent or in such application, shall not be affected thereby, and each and every term and condition of this Agreement shall be valid and enforced to the fullest extent and in the broadest application permitted by law."

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00800 - Supplementary Conditions.doc

SECTION 00830

STATE STATUTES AND REGULATIONS
COMMONWEALTH OF MASSACHUSETTS

A. REVISIONS TO GENERAL CONDITIONS

1. Definitions
2. Subsurface Conditions Found Different
3. Subcontracting
4. Permits
5. Contractor Records
6. Massachusetts Sales and Use Tax
7. Clarifications and Interpretations
8. Change of Contract Price
9. Payments
10. Suspension of Work and Termination
11. Labor Classification and Minimum Wage Rates

B. OTHER REGULATORY REQUIREMENTS

1. Working Hours
2. DEP Community Sound Level Criteria
3. OSHA 10 Hour Certification Requirements

ATTACHMENT A - Wage Rates

ATTACHMENT B

Excerpts from Chapter 149, Chapter 30 and Chapter 82 of the Massachusetts General Law

ATTACHMENT C

Not Applicable

ATTACHMENT D

Change Orders

A. REVISIONS TO GENERAL CONDITIONS:

1. Definitions

The term "AWARDING AUTHORITY," as used herein, shall be considered to be synonymous with the term "OWNER," described in definition 1.01 A.30.

Delete definition 1.01 A.43 entitled "Substantial Completion" in the General Conditions in its entirety and insert the following in its place:

"Substantial Completion shall be interpreted in accordance with Massachusetts General Law Chapter 30, Section 39G or 39K as appropriate."

2. Subsurface Conditions Found Different

Add the following sentence to the end of paragraph 4.03A of the General Conditions:

"...to do so. Adjustments resulting from subsurface or latent physical conditions will be in accordance with Massachusetts General Law Chapter 30, Section 39N."

3. Subcontracting

Add the following language at the end of paragraph 6.06F of the General Conditions:

"Except as required otherwise by Massachusetts General Law Chapter 149, Section 44F, for Work governed by Chapter 149, sections 44A through 44H.

4. Permits

Delete paragraph 6.08A of the General Conditions in its entirety and insert the following in its place:

"A. The AWARDING AUTHORITY shall be responsible for identifying and obtaining all federal, state, and local permits required by the nature and location of construction, including but not limited to railroad permits, building construction permits, and permits for street and highway cuts and openings. CONTRACTOR shall be responsible for obtaining all permits required of its equipment, work force, or particular operations (such as blasting) in the performance of the Work and not otherwise specified to be obtained by the AWARDING AUTHORITY. These permit fees shall be paid by CONTRACTOR. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of bids, or, if there are no Bids, on the Effective Date of the Agreement."

5. Contractor Records

Add a new paragraph immediately after paragraph 6.09C of the General Conditions, which is to read as follows:

"D. The CONTRACTOR shall comply with all applicable provisions Chapter 30, Section 39R of the Massachusetts General Laws regarding, CONTRACTOR's records."

6. Massachusetts Sales and Use Tax

Add the following paragraph after paragraph 6.10A of the General Conditions:

"B. The materials and supplies to be used by the CONTRACTOR in the Work of this Contract are exempt from the Sales and Use Tax of the Commonwealth of Massachusetts. The AWARDING AUTHORITY tax exemption certificate number will be furnished to the CONTRACTOR."

7. Clarifications and Interpretations

Add the following language at the end of paragraph 9.04A of the General Conditions:

"The ENGINEER'S interpretation will be made in accordance with the requirements of Massachusetts General Law Chapter 30, Section 39P."

8. Change of Contract Price

Delete paragraphs 11.01, 11.02 and 12.01 of the General Conditions, having to do with Change of Contract Price. Changes in contract price will be governed by the section called "Change Orders," in Attachment D, Section 00830 and Article 11 in the Supplementary Conditions.

9. Payments

Delete paragraph 14.02B.1 of the General Conditions in its entirety and insert the following in its place:

“1. Progress Payments will be made in accordance with Massachusetts General Law Chapter 30, Section 39G, or 39K, as applicable.”

Add the following new paragraph following paragraph 14.02C.1 of the General Conditions:

“2. The CONTRACTOR shall make payments to Subcontractors in accordance with the requirements of Massachusetts General Law Chapter 30, Section 39F.”

Delete paragraph 14.07B of the General Conditions in its entirety and insert the following in its place:

"1. If, on the basis of the ENGINEER's observation of the Work during construction and final inspection and, upon the ENGINEER's review of the final Application for Payment and accompanying documentation, the ENGINEER is satisfied that the Work has been

completed and that the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the ENGINEER will indicate in writing its recommendation of payment and present the Application to the AWARDING AUTHORITY for payment. Thereupon the ENGINEER will give written notice to the AWARDING AUTHORITY and the CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, the ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment. In such case the CONTRACTOR shall make the necessary corrections and resubmit the Application. If the Application and accompanying documentation are appropriate as to form and substance, the AWARDING AUTHORITY shall in accordance with the applicable Massachusetts General Law, pay the CONTRACTOR the amount recommended by the ENGINEER."

10. Suspension of Work and Termination

Delete paragraph 15.01A of the General Conditions in its entirety and insert the following in its place:

"A. The AWARDING AUTHORITY may order, at any time and without cause, the CONTRACTOR to suspend or delay the Work in accordance with Massachusetts General Law Chapter 30, Section 39O."

11. Labor Classifications and Minimum Wage Rates

Add the following paragraphs under the heading "Wage Rates" after paragraph 17.09 of the Supplementary Conditions:

"17.11 Wage Rates

A. Minimum Wage Rates as determined by the Commissioner of the Division of Occupational Safety of the Executive Office of Labor and Workforce Development under the provisions of Massachusetts General Laws Chapter 149, Sections 26-27D apply to this project. A copy of the wage schedule is included in Attachment A of Section 00830. If, after the Notice of Award, it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the Commissioner. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. The CONTRACTOR shall notify the AWARDING AUTHORITY of its intention to employ persons in trades or occupations not classified in the wage determinations as soon as possible in order to allow sufficient time for the AWARDING AUTHORITY to obtain approved rates for such trades or occupations.

B. The schedule of wages referred to above are minimum rates only, and the AWARDING AUTHORITY will not consider any claims for additional compensation made by CONTRACTOR because of payment by the CONTRACTOR of any wage rate in excess of the applicable rate contained in the

Contract. All construction associated with this Contract will be governed by Heavy and Highway Rates.

C. The said schedule of wages shall continue to be the minimum rates to be paid during the life of this Agreement, except in the case of the duration of this Agreement exceeding one year, when the Contractor will be responsible for requesting and obtaining updated minimum wage rates from the Owner, and a legible copy of said schedule shall be kept posted in a conspicuous place at the site of the Work.

D. CONTRACTOR and subcontractors shall submit a copy of weekly payroll records to the AWARDING AUTHORITY and the AWARDING AUTHORITY shall retain the records for a minimum of three years."

B. OTHER REGULATORY REQUIREMENTS:

1. Working Hours

No laborer, workman, mechanic, foreman, or inspector, working within the Commonwealth, in the employ of the CONTRACTOR, subcontractor, or other person doing or contracting to do the whole or a part of the work contemplated by this contract, shall be required or permitted to work more than eight hours in any one day or more than forty-eight hours in any one week, or more than six days in any one week, except in cases of emergency.

2. DEP Community Sound Level Criteria

The Community Sound Level Criteria as established by the Commonwealth of Massachusetts' Department of Environmental Protection (DEP) must be conformed to prior to the AWARDING AUTHORITY's acceptance of the structure. The following sound level criteria must be met at the construction site:

A. The increase in the broadband noise level shall not be in excess of ten (10) dB(A) above ambient at the station boundary. The ambient level is defined as the A-weighted noise level that is exceeded ninety (90) percent of the time measured during the period in question.

B. The primary noise source(s) shall not produce a puretone condition. Puretone is any given octave band center frequency that exceeds the two adjacent center frequencies by three (3) or more decibels.

3. OSHA 10 Hour Certification Requirements

Effective July 1, 2006 all employees of the Contractor who work at the jobsite must have received OSHA 10 Hour safety training, and have proof, at the jobsite, of being certified by OSHA as having received the training. The Contractor must provide written proof

(copy of OSHA card each employee is required to carry is preferred) of this certification for every employee with submission of the first certified payroll report for each employee.

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00830 - State Regulations.doc

ATTACHMENT A

WAGE RATES

ATTACHMENT B

Excerpts from Chapters 30, 82 and 149 of the Massachusetts General Laws

NOTICE *- These are* ***NOT*** *the official versions of the Massachusetts General Laws (MGL). While reasonable efforts have been made to assure the accuracy of the excerpts provided, do not rely on this information without first checking an official edition of the MGL. If you are in need of legal advice or counsel, consult a lawyer. These excerpts include amendments to the General Laws passed through April 30, 2009. For laws enacted since that time, see the 2009 Session Laws.*

Certain excerpts from the Massachusetts General Laws are applicable to Construction contracts. Attention is directed to the following Sections of Chapter 149 as amended.

Section 25. Lodging, board and trade of public employees; statute part of employment contract.

"Every employee in public work shall lodge, board, and trade where and with whom he elects; and no person or his agents or employees under contract with the commonwealth, a county, city or town, or with a department, board, commission or officer acting therefor, for the doing of public work shall directly or indirectly require, as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person. This section shall be made a part of the contract for such employment."

Section 26. Public works; preference to veterans and citizens; wages.

"In the employment of mechanics and apprentices, teamsters, chauffeurs and laborers in the construction of public works by the commonwealth, or by a county, town, authority or district, or by persons contracting or subcontracting for such works, preference shall first be given to citizens of the commonwealth who have been residents of the commonwealth for at least six months at the commencement of their employment who are male veterans as defined in clause Forty-third of section seven of chapter four, and who are qualified to perform the work to which the employment relates; and secondly, to citizens of the commonwealth generally who have been residents of the commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States, and every contract for such work shall contain a provision to this effect..."

Section 34. Public contracts; stipulation as to hours and days of work; void contracts.

"Every contract, except for the purchase of material or supplies, involving the employment of laborers, workmen, mechanics, foremen or inspectors, to which the commonwealth or any county or any town, subject to section thirty, is a party, shall contain a stipulation that no laborer, workman, mechanic, foreman or inspector working within the commonwealth, in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract, shall be required or permitted to work more than eight hours in any one-day or more than forty-eight hours in any one week, or more than six-days in any one week, except in cases of emergency, or, in case any town subject to section thirty-one is a party to such a contract, more than eight hours in any one-day, except as aforesaid..."

Section 34A. Contracts for public works; workers' compensation insurance; breach of contract; enforcement and violation of statute.

"Every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or other public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall, before commencing performance of such contract, provide by insurance for the payment of compensation and the furnishing of other benefits under chapter one hundred and fifty-two to all persons to be employed
under the contract, and that the contractor shall continue such insurance in full force and effect during the term of the contract. No officer or agent contracting in behalf of the commonwealth or any political subdivision thereof shall award such a contract until he has been furnished with sufficient proof of compliance with the aforesaid stipulations. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the contract and shall operate as an immediate termination thereof. No cancellation of such insurance, whether by the insurer or by the insured, shall be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the officer or agent who awarded the contract at least fifteen-days prior to the intended effective date thereof, which date shall be expressed in said notice. Notice of cancellation sent by the party proposing cancellation by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be a sufficient notice..."

Section 34B. Contracts for public works; wages for reserve police officer.

"Every contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public works for the commonwealth or any political subdivision thereof shall contain stipulations requiring that the contractor shall pay to any reserve police officer employed by him in any city or town the prevailing rate of wage paid to regular police officers in such city or town."

Whenever general bids are invited for a contract subject to Section 44A, the following provision applies:

Section 44E. Filing of bids; forms; modular buildings. Second paragraph of subdivision (2), clause E.

"The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A."

For projects estimated to cost more than $20,000, the following provision applies to sub-bidders:

Section 44F. Plans and specifications; sub-bids; form; contents. First paragraph of clause I of subdivision (2) of section 44F.

"The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards of subcontracts subject to section 44F."

Section 44J. Invitations to bid; notice; contents; violations; penalty.

"(1) No public agency or authority of the commonwealth or any political subdivision thereof shall award any contract for which competitive bids are required pursuant to section forty-four A of this chapter or section thirty-nine M of chapter thirty, or for which competitive proposals are required pursuant to subsection (4) of section forty-four E of this chapter or section eleven C of chapter twenty-five A, unless a notice inviting bids or proposals therefor shall have been posted no less than one week prior to the time specified in such notice for the receipt of said bids or proposals in a conspicuous place in or near the offices of the awarding authority, and shall have remained posted until the time so specified, and unless such notice shall also have been published at least once not less than two weeks prior to the time so specified in the central register published by the secretary of state pursuant to section twenty A of chapter nine and in a newspaper of general circulation in the locality of the proposed project. Said notice shall also be published at such other times and in such other newspapers or trade periodicals as the commissioner of capital asset management and maintenance may require, having regard to the locality of the work involved.

(2) Said notice shall specify the time and place where plans and specification of the proposed work may be had; the time and place of submission of general bids; and the time and place for opening of the general bids. For contracts subject to the provisions of section forty-four A to H, inclusive, of this chapter, said notice shall also specify the time and place for submission of filed sub-bids, where required pursuant to section forty-four F; and the time and place for opening of said filed sub-bids.

Said notice shall also provide sufficient facts concerning the nature and scope of such project, the type and elements of construction, and such other information as will assist applicants in deciding to bid on such contract.

(3) No contract or preliminary plans and specifications shall be split or divided for the purpose of evading the provisions of this section.

(4) General bids and filed sub-bids for any contract subject to this section shall be in writing and shall be opened in public at the time and place specified in the posted or published notice, and after being so opened shall be open to public inspection.

(5) The provisions of this section shall not apply to any transaction between the commonwealth and any public service corporation.

(6) The provisions of this section may be waived in cases of extreme emergency involving the health and safety of the people and their property, upon the written approval of said commissioner. The written approval shall contain a description of the circumstances and the reasons for the commissioner's determination.

(7) Whoever violates any provision of this section shall be punished by a fine of not more than ten thousand dollars or by imprisonment in the state prison for not more than three years or in a jail or house of correction for not more than two and one-half years, or by both said fine and imprisonment; and in the event of final conviction, said person shall be incapable of holding any office of honor, trust or profit under the commonwealth or under any county, district of municipal agency.

Each and every person who shall cause or conspire to cause any contract or preliminary plans and specifications to be split or divided for the purpose of evading the provisions of this section shall forfeit and pay to the commonwealth, a political subdivision thereof or other awarding authority subject to this section, the sum of not more than five thousand dollars and, in addition, such person or persons shall pay, apportioned among them, double the amount of damages which the commonwealth or political subdivision thereof or other awarding authority may have sustained by reason of the doing of such act, together with the costs of the action.

(8) If an awarding authority rejects all general bids or does not receive any general bids, and advertises for a second opening of general bids with the original filed sub-bids as set forth in subsection (1) of section forty-four E the notice for receipt of such general bids may be published in the central register and elsewhere as required not less than one week prior to the time specified for such second opening of general bids.

(9) No request for proposals or invitation for bids issued under sections 38A ½ to 38O, inclusive, of chapter 7, section 11C of chapter 25A, section 39M of chapter 30, this section and sections 44A to 44H, inclusive, shall be advertised if the awarding authority's cost estimate is greater than 1 year old."

Attention is directed to the following sections of Chapter 30 of the General Laws of Massachusetts as amended to date.

Section 39F. Construction contracts; assignment and subrogation; subcontractor defined; enforcement of claim for direct payment; deposit; reduction of disputed amounts.

"(1) Every contract awarded pursuant to sections forty-four A to L inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor.

a) Forthwith after the general contractor receives payment on account of a periodic estimate, the general contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(b) Not later than the sixty-fifth-day after each subcontractor substantially completes his work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the awarding authority shall pay that amount to the general contractor. The general contractor shall forthwith pay to the subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

(c) Each payment made by the awarding authority to the general contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the general contractor for the account of that subcontractor; and the awarding authority shall take reasonable steps to compel the general contractor to make each such payment to each such subcontractor. If the awarding authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the general contractor or which is to be included in a payment to the general contractor for payment to the subcontractor as provided in subparagraphs (a) and (b), the awarding authority shall act upon the demand as provided in this section.

(d) If, within seventy-days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the general contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the awarding authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered to or sent by certified mail to the general contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth-day after the subcontractor has substantially completed the subcontract work. Within ten-days after the subcontractor has delivered or so mailed the demand to the awarding authority and delivered or so mailed a copy to the general contractor, the general contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the awarding authority and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor and of the amount due for each claim made by the general contractor against the subcontractor.

(e) Within fifteen-days after receipt of the demand by the awarding authority, but in no event prior to the seventieth-day after substantial completion of the subcontract work, the awarding authority shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount (i) retained by the awarding authority as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the general contractor in the sworn reply; provided, that the awarding authority shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (d). The awarding authority shall make further direct payments to the subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this subparagraph.

(f) The awarding authority shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (e) in an interest-bearing joint account in the names of the general contractor and the subcontractor in a bank in Massachusetts selected by the awarding

authority or agreed upon by the general contractor and the subcontractor and shall notify the general contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the general contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.

(g) All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to subparagraph (f) shall be made out of amounts payable to the general contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the general contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the general contractor to the extent of such payment.

(h) The awarding authority shall deduct from payments to a general contractor amounts which, together with the deposits in interest-bearing accounts pursuant to subparagraph (f), are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the general contractor.

(i) If the subcontractor does not receive payment as provided in subparagraph (a) or if the general contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the subcontractor and the subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (a), the subcontractor may demand direct payment by following the procedure in subparagraph (d) and the general contractor may file a sworn reply as provided in that same subparagraph. A demand made after the first day of the month following that for which the subcontractor performed or furnished the labor and materials for which the subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the general contractor. Thereafter the awarding authority shall proceed as provided in subparagraph (e), (f), (g), and (h).

(2) Any assignment by a subcontractor of the rights under this section to a surety company furnishing a bond under the provisions of section twenty-nine of chapter one hundred forty-nine shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the awarding authority or which are on deposit pursuant to subparagraph (f) of paragraph (1) shall be subordinate to the rights of all subcontractors who are entitled to be paid under this section and who have not been paid in full.

(3) "Subcontractor" as used in this section (i) for contracts awarded as provided in sections forty-four A to forty-four H, inclusive, of chapter one hundred forty-nine shall mean a person who files a sub-bid and receives a subcontract as a result of that filed sub-bid or who is approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, (ii) for contracts awarded as provided in paragraph (a) of section thirty-nine M of chapter thirty shall mean a person approved by the awarding authority in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the general contractor, and (iii) for contracts with the commonwealth not awarded as provided in forty-four A to forty-four H, inclusive, of chapter one

hundred forty-nine shall also mean a person contracting with the general contractor to supply materials used or employed in a public works project for a price in excess of five thousand dollars.

(4) A general contractor or a subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposited as provided in subparagraph (f) of paragraph 1 by a petition in equity in the superior court against the other and the bank shall not be a necessary party. A subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in subparagraph (f) of paragraph 1 by a petition in equity in the superior court against the awarding authority and the general contractor shall not be a necessary party. Upon motion of any party the court shall advance for speedy trial any petition filed as provided in this paragraph. Sections fifty-nine and fifty-nine B of chapter two hundred thirty-one shall apply to such petitions. The court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to sections fifty-nine and fifty-nine B and, upon motion of any party, shall advance for speedy trial the petition to collect the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any subcontractor with the petition of one or more subcontractors or the same general contract unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general contract) is applicable to the petitions sought to be consolidated and that such consolidation will prevent unnecessary duplication of evidence. A decree in any such proceeding shall not include interest on the disputed amount deposited in excess of the interest earned for the period of any such deposit. No person except a subcontractor filing a demand for direct payment for which no funds due the general contractor are available for direct payment shall have a right to file a petition in court of equity against the awarding authority claiming a demand for direct payment is premature and such subcontractor must file the petition before the awarding authority has made a direct payment to the subcontractor and has made a deposit of the disputed portion as provided in part (iii) of subparagraph (e) and in subparagraph (f) of paragraph (1).

(5) In any petition to collect any claim for which a subcontractor has filed a demand for direct payment the court shall, upon motion of the general contractor, reduce by the amount of any deposit of a disputed amount by the awarding authority as provided in part (iii) of subparagraph (e) and in subparagraph (f) of paragraph (1) any amount held under a trustee writ or pursuant to a restraining order or injunction."

Section 39G. Completion of public works; semi-final and final estimates; payments; extra work; disputed items.

"Upon substantial completion of the work required by a contract with the commonwealth, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair or improvement of public ways, including bridges and other highway structures, sewers and water mains, airports and other public works, the contractor shall present in writing to the awarding authority its certification that the work has been substantially completed. Within twenty-one days thereafter, the awarding authority shall present to the contractor either a written declaration that the work has been substantially completed or an itemized list of incomplete or unsatisfactory work items required by the contract sufficient to demonstrate that the work has not been substantially completed.

The awarding authority may include with such list a notice setting forth a reasonable time, which shall not in any event be prior to the contract completion date, within which the contractor must achieve substantial completion of the work. In the event that the awarding authority fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the contractor's certification within the twenty-one-day period, the contractor's certification shall take effect as the awarding authority's declaration that the work has been substantially completed.

Within sixty-five-days after the effective date of a declaration of substantial completion, the awarding authority shall prepare and forthwith send to the contractor for acceptance a substantial completion estimate for the quantity and price of the work done and all but one percent retainage on that work, including the quantity, price and all but one percent retainage for the undisputed part of each work item and extra work item in dispute but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory work items and less the total periodic payments made to date for the work. The awarding authority also shall deduct from the substantial completion estimate an amount equal to the sum of all demands for direct payment filed by subcontractors and not yet paid to subcontractors or deposited in joint accounts pursuant to section thirty-nine F, but no contract subject to said section thirty-nine F shall contain any other provision authorizing the awarding authority to deduct any amount by virtue of claims asserted against the contract by subcontractors, material suppliers or others.

If the awarding authority fails to prepare and send to the contractor any substantial completion estimate required by this section on or before the date hereinabove set forth, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such substantial completion estimate at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the awarding authority sends that substantial completion estimate to the contractor for acceptance or to the date of payment therefor, whichever occurs first. The awarding authority shall include the amount of such interest in the substantial completion estimate.

Within fifteen-days after the effective date of the declaration of substantial completion, the awarding authority shall send to the contractor by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory work items, and, unless delayed by causes beyond his control, the contractor shall complete all such work items within forty-five-days after the receipt of such list or before the then contract completion date, whichever is later. If the contractor fails to complete such work within such time, the awarding authority may, subsequent to seven-days' written notice to the contractor by certified mail, return receipt requested, terminate the contract and complete the incomplete or unsatisfactory work items and charge the cost of same to the contractor.

Within thirty-days after receipt by the awarding authority of a notice from the contractor stating that all of the work required by the contract has been completed, the awarding authority shall prepare and forthwith send to the contractor for acceptance a final estimate for the quantity and price of the work done and all retainage on that work less all payments made to date, unless the awarding authority's inspection shows that work items required by the contract remain incomplete or unsatisfactory, or that documentation required by the contract has not been completed. If the awarding authority fails to prepare and send to the contractor the final estimate within thirty-days after receipt of notice of completion, the awarding authority shall pay to the contractor interest on the amount which would

have been due to the contractor pursuant to such final estimate at the rate hereinabove provided from the thirtieth-day after such completion until the date on which the awarding authority sends the final estimate to the contractor for acceptance or the date of payment therefor, whichever occurs first, provided that the awarding authority's inspection shows that no work items required by the contract remain incomplete or unsatisfactory. Interest shall not be paid hereunder on amounts for which interest is required to be paid in connection with the substantial completion estimate as hereinabove provided. The awarding authority shall include the amount of the interest required to be paid hereunder in the final estimate.

The awarding authority shall pay the amount due pursuant to any substantial completion or final estimate within thirty-five-days after receipt of written acceptance for such estimate from the contractor and shall pay interest on the amount due pursuant to such estimate at the rate hereinabove provided from that thirty-fifth- day to the date of payment. Within 15 days, 30 days in the case of the commonwealth, after receipt from the contractor, at the place designated by the awarding authority, if such place is so designated, of a periodic estimate requesting payment of the amount due for the preceding periodic estimate period, the awarding authority shall make a periodic payment to the contractor for the work performed during the preceding periodic estimate period and for the materials not incorporated in the work but delivered and suitably stored at the site, or at some location agreed upon in writing, to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances. The awarding authority shall include with each such payment interest on the amount due pursuant to such periodic estimate at the rate herein above provided from the due date. In the case of periodic payments, the contracting authority may deduct from its payment a retention based on its estimate of the fair value of its claims against the contractor, a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and a retention to secure satisfactory performance of the contractual work not exceeding five per cent of the approved amount of any periodic payment, and the same right to retention shall apply to bonded subcontractors entitled to direct payment under section thirty-nine F of chapter thirty; provided, that a five per cent value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance."

No periodic, substantial completion or final estimate or acceptance or payment thereof shall bar a contractor from reserving all rights to dispute the quantity and amount of, or the failure of the awarding authority to approve a quantity and amount of, all or part of any work item or extra work item.'

Substantial completion, for the purposes of this section, shall mean either that the work required by the contract has been completed except for work having a contract price of less than one percent of the then adjusted total contract price, or substantially all of the work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the work required by the contract."

Section 39I. Deviations from plans and specifications.

"Every contractor having a contract for the construction, alteration, maintenance, repair or demolition of, or addition to, any public building or public works for the commonwealth, or of any political subdivision thereof, shall perform all the work required by such contract in conformity with the plans and specifications contained therein. No wilful and substantial deviation from said plans and specifications shall be made unless authorized in writing by the awarding authority or by the engineer or architect in charge of the work who is duly authorized by the awarding authority to approve such deviations. In order to avoid delays in the prosecution of the work required by such contract such deviation from the plans or specifications may be authorized by a written order of the awarding authority or such engineer or architect so authorized to approve such deviation. Within thirty days thereafter, such written order shall be confirmed by a certificate of the awarding authority stating: (1) if such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures or equipment were included in the first instance and the reasons for substitution or elimination, and, if the deviation is of any other nature, the reasons for such deviation, giving justification therefor; (2) that the specified deviation does not materially injure the project as a whole; (3) that either the work substituted for the work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the contracting agency and the contractor and the amount in dollars of said adjustment; and (4) that the deviation is in the best interest of the contracting authority.

Such certificate shall be signed under the penalties of perjury and shall be a permanent part of the file record of the work contracted for.

Whoever violates any provision of this section willfully and with intent to defraud shall be punished by a fine of not more than five thousand dollars or by imprisonment for not more than six months, or both."

Section 39J. Public construction contracts; effect of decisions of contracting body or administrative board.

"Notwithstanding any contrary provision of any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or public works by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount of the contract is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, a decision, by the contracting body or by any administrative board, official or agency, or by any architect or engineer, on a dispute, whether of fact or of law, arising under said contract shall not be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, or arbitrarily is unsupported by substantial evidence, or is based upon error of law."

Section 39K. Public building construction contracts; payments.

"Every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building by the commonwealth, or by any county, city, town, district, board, commission or other public body, when the amount is more than five thousand dollars in the case of the commonwealth and more than two thousand dollars in the case of any county, city, town, district, board, commission or other public body, shall contain the following paragraph: Within fifteen-days

(thirty-days in the case of the commonwealth, including local housing authorities) after receipt from the contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances, but less (1) a retention based on its estimate of the fair value of its claims against the contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five-days after (a) the contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one percent of the original contract price, or (b) the contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the contract less, (1) a retention based on its estimate of the fair value of its claims against the contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, or based on the record of payments by the contractor to the subcontractors under this contract if such record of payment indicates that the contractor has not paid subcontractors as provided in section thirty-nine F. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston commencing on the first-day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen-days (twenty-four-days in the case of the commonwealth) after receipt of such a periodic estimate from the contractor, at the place designated by the awarding authority if such a place is so designated. The contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

The awarding authority may make changes in any periodic estimate submitted by the contractor and the payment due on said periodic estimate shall be computed in accordance with the changes so made, but such changes or any requirement for a corrected periodic estimate shall not affect the due date for the periodic payment or the date for the commencement of interest charges on the amount of the periodic payment computed in accordance with the changes made, as provided herein; provided, that the awarding authority may, within seven-days after receipt, return to the contractor for correction, any periodic estimate which is not in the required form or which contains computations not arithmetically correct and, in that event, the date of receipt of such periodic estimate shall be the date of receipt of the corrected periodic estimate in proper form with arithmetically correct computations. The date of receipt of a periodic estimate received on a Saturday shall be the first working day thereafter. The provisions of section thirty-nine G shall not apply to any contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building to which this section applies.

All periodic estimates shall be submitted to the awarding authority, or to its designee as set forth in writing to the contractor, and the date of receipt by the awarding authority or its designee shall be marked on the estimate. All periodic estimates shall contain a separate item for each filed subtrade and each sub-subtrade listed in sub-bid form as required by specifications and a column listing the amount paid to each subcontractor and sub-subcontractor as of the date the periodic estimate is filed. The person making payment for the awarding authority shall add the daily interest provided for herein to each payment for each day beyond the due date based on the date of receipt marked on the estimate.

A certificate of the architect to the effect that the contractor has fully or substantially completed the work shall, subject to the provisions of section thirty-nine J, be conclusive for the purposes of this section.

Notwithstanding the provisions of this section, at any time after the value of the work remaining to be done is, in the estimation of the awarding authority, less than 1 per cent of the adjusted contract price, or the awarding authority has determined that the contractor has substantially completed the work and the awarding authority has taken possession for occupancy, the awarding authority may send to the general contractor by certified mail, return receipt requested, a complete and final list of all incomplete and unsatisfactory work items, including, for each item on the list, a good faith estimate of the fair and reasonable cost of completing such item. The general contractor shall then complete all such work items within 30 days of receipt of such list or before the contract completion date, whichever is later. If the general contractor fails to complete all incomplete and unsatisfactory work items within 45 days after receipt of such items furnished by the awarding authority or before the contract completion date, whichever is later, subsequent to an additional 14 days' written notice to the general contractor by certified mail, return receipt requested, the awarding authority may terminate the contract and complete the incomplete and unsatisfactory work items and charge the cost of same to the general contractor and such terminations shall be without prejudice to any other rights or remedies the awarding authority may have under the contract. The awarding authority shall note any such termination in the evaluation form to be filed by the awarding authority pursuant to the provisions of section 44D of chapter 149."

Section 39L. Public construction work by foreign corporations; restrictions and reports.

"The commonwealth and every county, city, town, district, board, commission or other public body which, as the awarding authority, request proposals, bids or sub-bids for any work in the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or other public works (1) shall not enter into a contract for such work with, and shall not approve as a subcontractor furnishing labor and materials for a part of the work, a foreign corporation which has not filed with such awarding authority a certificate of the state secretary stating that the corporation has complied with requirements of section 15.03 of subdivision A of Part 15 of chapter 156D and the date of compliance, and further has filed all annual reports required by section 16.22 of subdivision B of Part 16 of said chapter 156D, and (2) shall report to the state secretary and to the department of corporations and taxation any foreign corporation performing work under such contract or subcontract, and any person, other than a corporation, performing work under such contract or subcontract, and residing or having a principal place of business outside the commonwealth."

Section 39M. **Contracts for construction and materials; manner of awarding.**

"(b) Specifications for such contracts, and specifications for contracts awarded pursuant to the provisions of said sections forty-four A to forty-four L of said chapter one hundred and forty-nine, shall be written to provide for full competition for each item of material to be furnished under the contract; except, however, that said specifications may be otherwise written for sound reasons in the public interest stated in writing in the public records of the awarding authority or promptly given in writing by the awarding authority to anyone making a written request therefor, in either instance such writing to be prepared after reasonable investigation. Every such contract shall provide that an item equal to that named or described in the said specifications may be furnished; and an item shall be considered equal to the item so named or described if, in the opinion of the awarding authority: (1) it is at least equal in quality, durability, appearance, strength and design, (2) it will perform at least equally the function imposed by the general design for the public work being contracted for or the material being purchased, and (3) it conforms substantially, even with deviations, to the detailed requirements for the item in the said specifications.

For each item of material the specifications shall provide for either a minimum of three named brands of material or a description of material which can be met by a minimum of three manufacturers or producers, and for the equal of any one of said named or described materials."

For projects estimated to cost more than $10,000, the following provision, section 39M subsection c, applies:

"(c) The term "lowest responsible and eligible bidder" shall mean the bidder: (1) whose bid is the lowest of those bidders possessing the skill, ability and integrity necessary for the faithful performance of the work; (2) who shall certify, that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (3) who shall certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; (4) who, where the provisions of section 8B of chapter 29 apply, shall have been determined to be qualified thereunder; and (5) who obtains within 10 days of the notification of contract award the security by bond required under section 29 of chapter 149; provided that for the purposes of this section the term "security by bond" shall mean the bond of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority; provided further, that if there is more than 1 surety company, the surety companies shall be jointly and severally liable."

Section 39N. Construction contracts; equitable adjustment in contract price for differing subsurface or latent physical conditions.

"Every contract subject to section forty-four A of chapter one hundred and forty-nine or subject to section thirty-nine M of chapter thirty shall contain the following paragraph in its entirety and an

awarding authority may adopt reasonable rules or regulations in conformity with that paragraph concerning the filing, investigation and settlement of such claims:

If, during the progress of the work, the contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the contract documents either the contractor or the contracting authority may request an equitable adjustment in the contract price of the contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a contractor, or upon its own initiative, the contracting authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the contract documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and contract documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the contracting authority shall make an equitable adjustment in the contract price and the contract shall be modified in writing accordingly."

Section 39O. **Contracts for construction and materials; suspension, delay or interruption due to order of awarding authority; adjustment in contract price; written claim.**

"Every contract subject to the provisions of section thirty-nine M of this chapter or subject to section forty-four A of chapter one hundred forty-nine shall contain the following provisions (a) and (b) in their entirety and, in the event a suspension, delay, interruption or failure to act of the awarding authority increases the cost of performance to any subcontractor, that subcontractor shall have the same rights against the general contractor for payment for an increase in the cost of his performance as provisions (a) and (b) give the general contractor against the awarding authority, but nothing in provisions (a) and (b) shall in any way change, modify or alter any other rights which the general contractor or the subcontractor may have against each other.

(a) The awarding authority may order the general contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the awarding authority; provided however, that if there is a suspension, delay or interruption for fifteen-days or more due to a failure of the awarding authority to act within the time specified in this contract, the awarding authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the general contractor on such increase; and provided further, that the awarding authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions.

(b) The general contractor must submit the amount of a claim under provision (a) to the awarding authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the awarding authority shall not approve any costs in the

claim incurred more than twenty-days before the general contractor notified the awarding authority in writing of the act or failure to act involved in the claim."

Section 39P. Contracts for construction and materials; awarding authority's decisions on interpretation of specifications, etc.; time limit; notice.

"Every contract subject to section thirty-nine M of this chapter or section forty-four A of chapter one hundred forty-nine which requires the awarding authority, any official, its architect or engineer to make a decision on interpretation of the specifications, approval of equipment, material or any other approval, or progress of the work, shall require that the decision be made promptly and, in any event, no later than thirty-days after the written submission for decision; but if such decision requires extended investigation and study, the awarding authority, the official, architect or engineer shall, within thirty-days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty-day period and the date by which the decision will be made."

Section 39Q. Contracts for capital facility construction; contents; annual claims report.

"(1) Every contract awarded by any state agency as defined by section thirty-nine A of chapter seven for the construction, reconstruction, alteration, remodeling, repair or demolition of any capital facility as defined by the aforesaid section thirty-nine A shall contain the following subparagraphs (a) through (d) in their entirety:

(a) Disputes regarding changes in and interpretations of the terms or scope of the contract and denials of or failures to act upon claims for payment for extra work or materials shall be resolved according to the following procedures, which shall constitute the exclusive method for resolving such disputes. Written notice of the matter in dispute shall be submitted promptly by the claimant to the chief executive official of the state agency which awarded the contract or his designee. No person or business entity having a contract with a state agency shall delay, suspend, or curtail performance under that contract as a result of any dispute subject to this section. Any disputed order, decision or action by the agency or its authorized representative shall be fully performed or complied with pending resolution of the dispute.

(b) Within thirty days of submission of the dispute to the chief executive official of the state agency or his designee, he shall issue a written decision stating the reasons therefor, and shall notify the parties of their right of appeal under this section. If the official or his designee is unable to issue a decision within thirty days, he shall notify the parties to the dispute in writing of the reasons why a decision cannot be issued within thirty days and of the date by which the decision shall issue. Failure to issue a decision within the thirty-day period or within the additional time period specified in such written notice shall be deemed to constitute a denial of the claim and shall authorize resort to the appeal procedure described below. The decision of the chief executive official or his/her designee shall be final and conclusive unless an appeal is taken as provided below.

(c) Within twenty-one calendar days of the receipt of a written decision or of the failure to issue a decision as stated in the preceding subparagraph, any aggrieved party may file a notice of claim for an adjudicatory hearing with the division of hearing officers or the aggrieved party may file an

action directly in a court of competent jurisdiction and shall serve copies thereof upon all other parties in the form and manner prescribed by the rules governing the conduct of adjudicatory proceedings of the division of hearing officers. In the event an aggrieved party exercises his option to file an action directly in court as provided in the previous sentence, the twenty-one day period shall not apply to such filing and the period of filing such action shall be the same period otherwise applicable for filing a civil action in superior court. The appeal shall be referred to a hearing officer experienced in construction law and shall be prosecuted in accordance with the formal rules of procedure for the conduct of adjudicatory hearings of the division of hearing officers, except as provided below. The hearing officer shall issue a final decision as expeditiously as possible, but in no event more than one hundred and twenty calendar days after conclusion of the adjudicatory hearing, unless the decision is delayed by a request for extension of time for filing post-hearing briefs or other submissions assented to by all parties. Whenever, because an extension of time has been granted, the hearing officer is unable to issue a decision within one hundred and twenty days, he shall notify all parties of the reasons for the delay and the date when the decision will issue. Failure to issue a decision within the one hundred and twenty-day period or within the additional period specified in such written notice shall give the petitioner the right to pursue any legal remedies available to him without further delay.

(d) When the amount in dispute is less than ten thousand dollars, a contractor who is party to the dispute may elect to submit the appeal to a hearing officer experienced in construction law for expedited hearing in accordance with the informal rules of practice and procedure of the division of hearing officers. An expedited hearing under this subparagraph shall be available at the sole option of the contractor. The hearing officer shall issue a decision no later than sixty days following the conclusion of any hearing conducted pursuant to this subparagraph. The hearing officer's decision shall be final and conclusive, and shall not be set aside except in cases of fraud.

(2) The commissioner of administration shall require the division of hearings officers to prepare annually a report concerning the construction contract claims submitted to the division during the preceding twelve months, in such form as the commissioner shall prescribe. The report shall contain, at a minimum, the following information: the number of claims submitted; the names of all parties to each such claim; a brief description of the claim: the date of submission and of disposition of the claim; its disposition, whether by settlement, withdrawal, default or written decision; and the number of claims currently pending. The original of the report shall be submitted to the commissioner of administration by January fifteenth, and a copy shall be filed with the state librarian and shall be a public document."

Section 39R. Definitions; contract provisions; management and financial statements; enforcement.

"(a) The words defined herein shall have the meaning stated below whenever they appear in this section:

(1) "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A to forty-four H, inclusive, of

chapter one hundred and forty-nine, which is for an amount or estimated amount greater than one hundred thousand dollars.

(2) "Contract" means any contract awarded or executed pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven and any contract awarded or executed pursuant to section eleven C of chapter twenty-five A, section thirty-nine M of chapter thirty, or sections forty-four A through forty-four H, inclusive, of chapter one hundred and forty-nine, which is for amount or estimated amount greater than one hundred thousand dollars.

(3) "Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

(4) "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his residence or principal office and who is in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the awarding authority.

(5) "Audit," when used in regard to financial statements, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.

(6) "Accountant's Report," when used in regard to financial statements, means a document in which an independent certified public accountant indicates the scope of the audit which he has made and sets forth his opinion regarding the financial statements taken as a whole with a listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as a part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.

(7) "Management," when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the contractor.

(8) Accounting terms, unless otherwise defined herein, shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

(b) Subsection (a)(2) hereof notwithstanding, every agreement or contract awarded or executed pursuant to sections thirty-eight A 1/2 to thirty-eight O, inclusive, of chapter seven, or eleven C of

chapter twenty-five A, and pursuant to section thirty-nine M of chapter thirty or to section forty-four A through H, inclusive, of chapter one hundred and forty-nine, shall provide that:

(1) The contractor shall make, and keep for at least six years after final payment, books, records, and accounts which in reasonable detail accurately and fairly reflect the transactions and dispositions of the contractor, and

(2) Until the expiration of six years after final payment, the office of inspector general, and the commissioner of capital asset management and maintenance shall have the right to examine any books, documents, papers or records of the contractor or of his subcontractors that directly pertain to, and involve transactions relating to, the contractor or his subcontractors, and

(3) If the agreement is a contract as defined herein, the contractor shall describe any change in the method of maintaining records or recording transactions which materially affect any statements filed with the awarding authority, including in his description the date of the change and reasons therefor, and shall accompany said description with a letter from the contractor's independent certified public accountant approving or otherwise commenting on the changes, and

(4) If the agreement is a contract as defined herein, the contractor has filed a statement of management on internal accounting controls as set forth in paragraph (c) below prior to the execution of the contract, and

(5) If the agreement is a contract as defined herein, the contractor has filed prior to the execution of the contracts and will continue to file annually, an audited financial statement for the most recent completed fiscal year as set forth in paragraph (d) below.

(c) Every contractor awarded a contract shall file with the awarding authority a statement of management as to whether the system of internal accounting controls of the contractor and subsidiaries reasonably assures that:

(1) Transactions are executed in accordance with management's general and specific authorization;

(2) Transactions are recorded as necessary:

i. To permit preparation of financial statements in conformity with generally accepted accounting principles, and

ii. To maintain accountability for assets;

(3) Access to assets is permitted only in accordance with management's general or specific authorization; and

(4) The recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action was taken with respect to any difference.

Every contractor awarded a contract shall also file with the awarding authority a statement prepared and signed by an independent certified public accountant, stating that he/she has examined the statement of management on internal accounting controls, and expressing an opinion as to:

(1) Whether the representations of management in response to this paragraph, and paragraph (b) above are consistent with the result of management's evaluation of the system of internal accounting controls; and

(2) Whether such representations of management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

(d) Every contractor awarded a contract by the commonwealth or by any political subdivision thereof shall annually file with the commissioner of capital asset management and maintenance during the term of the contract a financial statement prepared by an independent certified public accountant on the basis of an audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the awarding authority upon request.

(e) The office of inspector general, the commissioner for capital asset management and maintenance and any other awarding authority shall enforce the provisions of this section. The commissioner of capital asset management and maintenance may after providing an opportunity for the inspector general and other interested parties to comment, promulgate pursuant to the provisions of chapter thirty A such rules, regulations and guidelines as are necessary to effectuate the purposes of this section. Such rules, regulations and guidelines may be applicable to all awarding authorities. A contractor's failure to satisfy any of the requirements of this section may be grounds for debarment pursuant to section forty-four C of chapter one hundred and forty-nine.

(f) Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in section seven of chapter four and shall not be open to public inspection; provided, however, that such records and statements shall be made available pursuant to the provisions of clause (2) of paragraph (b)."

Section 39S. Contracts for construction; requirements.

"(a) As used in this section the word "person" shall mean any natural person, joint venture, partnership corporation or other business or legal entity. Any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any public work by the commonwealth, or political subdivision thereof, or by any county, city, town, district, or housing authority, and estimated by the awarding authority to cost more than $10,000, and any person submitting a bid for, or signing a contract to work on, the construction, reconstruction, installation, demolition, maintenance or repair of any building by a public agency, estimated to cost more than $10,000, shall certify on the bid, or contract, under penalties of perjury, as follows:

(1) That he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

(b) Any employee found on a worksite subject to this section without documentation of successful completion of a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

(c) The attorney general, or his designee, shall have the power to enforce this section including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts in all cases where, after investigation of the facts, he has made a finding that the award or performance has resulted in violation, directly or indirectly, of subsection (b), and he shall not be required to pay to the clerk of the court an entry fee in connection with the institution of the proceeding."

Section 40. Discharge or release of bonds.

"Bonds given to the commonwealth, any county, city, town or political subdivision to secure the performance of contracts for the construction or repair of public buildings or other public works may be discharged or released by the awarding authority, upon such terms as it deems expedient, after the expiration of one year from the time of completion, subject to section thirty-nine K, of the work contracted to be done; provided that no claim filed under said bond is pending, and provided further, that no such bonds shall be discharged or released prior to the expiration of all special guarantees provided for in the contract unless new bonds in substitution therefor specifically relating to the unexpired guarantees shall be taken."

Attention is directed to the following sections of Chapter 82 of the General Laws of Massachusetts as amended to date.

Section 40. Definitions.

"The following words, as used in this section and sections 40A to 40E, inclusive, shall have the following meanings:

"**Company**", natural gas pipeline company, petroleum or petroleum products pipeline company, public utility company, cable television company, and municipal utility company or department that supply gas, electricity, telephone, communication or cable television services or private water companies within the city or town where such excavation is to be made.

"**Description of excavation location**", such description shall include the name of the city or town, street, way, or route number where appropriate, the name of the streets at the nearest intersection to the excavation, the number of the buildings closest to the excavation or any other description, including landmarks, utility pole numbers or other information which will accurately define the location of the excavation.

"**Emergency**", a condition in which the safety of the public is in imminent danger, such as a threat to life or health or where immediate correction is required to maintain or restore essential public utility service.

"**Excavation**", an operation for the purpose of movement or removal of earth, rock or the materials in the ground including, but not limited to, digging, blasting, augering, backfilling, test boring, drilling, pile driving, grading, plowing in, hammering, pulling in, jacking in, trenching, tunneling and demolition of structures, excluding excavation by tools manipulated only by human power for gardening purposes and use of blasting for quarrying purposes.

"**Excavato**r", any entity including, but not limited to, a person, partnership, joint venture, trust, corporation, association, public utility, company or state or local government body which performs excavation operations.

"**Premark**", to delineate the general scope of the excavation or boring on the paved surface of the ground using white paint, or stakes or other suitable white markings on nonpaved surfaces. No premarking shall be acceptable if such marks can reasonably interfere with traffic or pedestrian control or are misleading to the general public. Premarking shall not be required of any continuous excavation that is over 500 feet in length.

"**Safety zone**", a zone designated on the surface by the use of standard color-coded markings which contains the width of the facilities plus not more than 18 inches on each side.

"**Standard color-coded markings**", red - electric power lines, cables, conduit or light cables; yellow - gas, oil, street petroleum, or other gaseous materials; orange - communications cables or conduit, alarm or signal lines; blue - water, irrigation and slurry lines; green - sewer and drain lines; white - premark of proposed excavation.

"**System**", the underground plant damage prevention system as defined in section 76D of chapter 164."

Section 40A. Excavations; notice.

"No excavator installing a new facility or an addition to an existing facility or the relay or repair of an existing facility shall, except in an emergency, make an excavation, in any public or private way, any company right-of-way or easement or any public or privately owned land or way, unless at least 72 hours, exclusive of Saturdays, Sundays and legal holidays but not more than 30 days before the proposed excavation is to be made, such excavator has premarked not more than 500 feet of the proposed excavation and given an initial notice to the system. Such initial notice shall set forth a description of the excavation location in the manner as herein defined. In addition, such initial notice shall indicate whether any such excavation will involve blasting and, if so, the date and the location at which such blasting is to occur.

The notice requirements shall be waived in an emergency as defined herein; provided, however, that before such excavation begins or during a life-threatening emergency, notification shall be given to the system and the initial point of boring or excavation shall be premarked. The excavator shall ensure that the underground facilities of the utilities in the area of such excavation shall not be damaged or jeopardized.

In no event shall any excavation by blasting take place unless notice thereof, either in the initial notice or a subsequent notice accurately specifying the date and location of such blasting shall have been given and received at least 72 hours in advance, except in the case of an unanticipated obstruction requiring blasting when such notice shall be not less than four hours prior to such blasting. If any such notice cannot be given as aforesaid because of an emergency requiring blasting, it shall be given as soon as may be practicable but before any explosives are discharged."

Section 40B. Designation of location of underground facilities.

"Within 72 hours, exclusive of Saturdays, Sundays and legal holidays, from the time the initial notice is received by the system or at such time as the company and the excavator agree, such

company shall respond to the initial notice or subsequent notice by designating the location of the underground facilities within 15 feet in any direction of the premarking so that the existing facilities are to be found within a safety zone. Such safety zone shall be so designated by the use of standard color-coded markings. The providing of such designation by the company shall constitute prima facie evidence of an exercise of reasonable precaution by the company as required by this section; provided, however, that in the event that the excavator has given notice as aforesaid at a location at which because of the length of excavation the company cannot reasonably designate the entire location of its facilities within such 72 hour period, then such excavator shall identify for the company that portion of the excavation which is to be first made and the company shall designate the location of its facilities in such portion within 72 hours and shall designate the location of its facilities in the remaining portion of the location within a reasonable time thereafter. When an emergency notification has been given to the system, the company shall make every attempt to designate its facilities as promptly as possible."

Section 40C. Excavator's responsibility to maintain designation markings; damage caused by excavator.

"After a company has designated the location of its facilities at the location in accordance with section 40B, the excavator shall be responsible for maintaining the designation markings at such locations, unless such excavator requests remarking at the location due to the obliteration, destruction or other removal of such markings. The company shall then remark such location within 24 hours following receipt of such request.

When excavating in close proximity to the underground facilities of any company when such facilities are to be exposed, non-mechanical means shall be employed, as necessary, to avoid damage in locating such facility and any further excavation shall be performed employing reasonable precautions to avoid damage to any underground facilities including, but not limited to, any substantial weakening of structural or lateral support of such facilities, penetration or destruction of any pipe, main, wire or conduit or the protective coating thereof, or damage to any pipe, main, wire or conduit.

If any damage to such pipe, main, wire or conduit or its protective coating occurs, the company shall be notified immediately by the excavator responsible for causing such damage.

The making of an excavation without providing the notice required by section 40A with respect to any proposed excavation which results in any damage to a pipe, main, wire or conduit, or its protective coating, shall be prima facie evidence in any legal or administrative proceeding that such damage was caused by the negligence of such person."

Section 40D. Local laws requiring excavation permits; public ways.

"Nothing in this section shall affect or impair local ordinances or by-laws requiring a permit to be obtained before excavation in a public way or on private property; but notwithstanding any general or special law, ordinance or by-law to the contrary, to the extent that any permit issued under the provisions of the state building code or state fire code requires excavation by an excavator on a public way or on private property, the permit shall not be valid unless the excavator notifies the

system as required pursuant to sections 40 and 40A, before the commencement of the excavation, and has complied with the permitting requirements of chapter 82A."

Section 40E. Violations of Secs. 40A to 40E; punishment.

"Any person or company found by the department of telecommunications and energy, after a hearing, to have violated any provision of sections 40A to 40E, inclusive, shall be fined $1000 for the first offense and not less than $5,000 nor more than $10,000 for any subsequent offense within 12 consecutive months as set forth by the rules of said department; provided, however, that nothing herein shall be construed to require forfeiture of any penal sum by a state or local government body for violation of section 40A or 40C; and provided, further, that nothing herein shall be construed to require the forfeiture of any penal sum by a residential property owner for the failure to premark for an excavation on such person's residential property."

Attention is directed to the following sections of Chapter 30 of the Acts of 2009.

Section 33.

"Notwithstanding any general or special law to the contrary, the following requirements shall apply to any public works project funded by the American Recovery and Reinvestment Act of 2009 where the amount of construction costs under any contract awarded is likely to exceed $1,000,000. For the purposes of this section, "public works" shall mean building or work the construction of which is carried on by authority of the commonwealth, or by a county, town, authority or district, or with funds of a federal agency or the commonwealth or a county, city, town, authority or district to serve the interest of the general public, regardless of whether title thereof is in the commonwealth or in a county, city, town, authority or district; provided, however, that for the purposes of this definition, "construction" shall have the meaning provided in section 27D of chapter 149 of the General Laws.

For any public works project subject to subsection (a), the specifications set forth in any request for responses shall include a requirement that, on a per project basis, not less than 20 per cent of the total hours of employees receiving an hourly wage who are directly employed on the site of the project, employed by the contractor or a subcontractor and subject to the prevailing wage, shall be performed by apprentices in bona fide apprentice training programs as provided in sections 11H and 11I of chapter 23 of the General Laws which are approved by the division of apprentice training in the executive office of labor and workforce development.

(c) During the performance of a public works project subject to subsections (a) and (b), the contractor shall submit periodic reports to the awarding authority with records indicating the total hours worked by all journeymen and apprentices in positions subject to the apprentice requirement. In any instance in which the apprentice hours do not constitute 5 per cent of the total hours of employees subject to the apprentice requirement, the contractor shall submit a plan to the awarding authority describing how the contractor shall comply with the apprentice requirement.

(d) The attorney general shall have all the necessary powers to require compliance with the requirements of subsections (a), (b) and (c) therewith, including the power to institute and prosecute proceedings in the superior court to restrain the award of contracts and the performance of contracts.

Prior to award of the contract, an awarding authority may petition the attorney general for approval to adjust the requirements set forth in said subsections (a), (b) and (c). The attorney general may adjust these requirements only if he determines that compliance with these requirements is not feasible or if application of the requirements would be preempted by federal law.

(e) An awarding authority serving a low-income population may require additional specifications that address the needs of its clients including, but not limited to, preferential hiring for residents of public housing authorities for available apprenticeship positions.

(f) Subject to appropriation, the division of apprentice training shall enhance its outreach efforts to underserved populations in order to increase and diversify the number of apprentices in the commonwealth."

Section 39.

"Any entity located in the commonwealth that receives federal funds through the American Recovery and Reinvestment Act of 2009 shall provide information as directed by the secretary of administration and finance regarding the use of the funds. The required information shall include, but not be limited to, the reporting information required by the federal government and any other information deemed necessary by the secretary to administer the American Recovery and Reinvestment Act of 2009 responsibly, efficiently and transparently. To the extent possible, the secretary shall work to streamline the reporting of this information, minimize duplication of data entry by recipients and ensure data consistency. The secretary may issue regulations to effectuate this reporting requirement."

Section 40.

"Employers and hiring agents on all projects funded in whole or in part by the American Recovery and Reinvestment Act of 2009 shall post notices of available employment opportunities to the commonwealth's job bank or the one-stop career centers closest to where the projects shall be located. The postings shall contain such information as directed by the secretary of labor and workforce development. The secretary may issue regulations to effectuate this job posting requirement."

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00830B - MA Excerpts.doc

ATTACHMENT B

EXCERPTS FROM CHAPTERS 30, 82, AND 149 OF THE
MASSACHUSETTS GENERAL LAWS

ATTACHMENT D

CHANGE ORDERS

ATTACHMENT D

CHANGE ORDERS

Policy:

This section supplements Article 12, Change of Contract Price, in the General Conditions and Supplementary Conditions.

All executed change orders submitted to the Engineer for review and processing must be prepared in accordance with the attached change order format (Appendix A) with the appropriate number of copies, calculation sheet(s) (Appendix B) and all other supporting documentation necessary for evaluation. Failure to comply with these instructions will result in delays in processing the change order.

In order to avoid possible delays with approval of change orders, at the beginning of the project and as circumstances warrant, the Contractor shall submit a list of construction equipment, identifying major pieces of equipment to be utilized on the project. The list shall include the Contractor's designation, if any, the manufacturer, model, year of manufacture, serial number, size and horsepower of equipment. The Contractor shall also provide for approval a proposed bluebook equipment rental rate development that separately lists for each piece of equipment the monthly rental rate, area adjustment factor, depreciation factor, estimated operating cost per hour and total hourly rate. In the event the Contractor fails or is unable to provide appropriate rate information the Engineer may develop equipment rental rates for use on change orders.

Payment of Change Orders:

Payment of all change orders shall be in accordance with the relevant provisions of Massachusetts General Laws, Chapter 30, Section 39G for non-building construction and Section 39K for building construction as amended from time to time.

Payment of change orders shall be made in accordance with one of the following three methods:

A. Existing unit prices as set forth in the contract; or

B. Agreed upon lump sum or unit prices; or

C. Time and materials

A. Payment for work for which there is a unit price in the contract:

Where the contract contains a unit price for work and the Engineer orders a change for work of the same kind as other work contained in the contract and is performed under similar physical conditions, the Contractor shall accept full and final payment at the contract unit price(s) for the acceptable quantities. Under certain circumstances, the unit prices may be subject to revaluation and adjustment. See Article 11 in the Supplementary Conditions.

B. Payment for work or materials for which no price is contained in the contract:

If the Engineer directs, the Contractor shall submit promptly in writing to the Engineer an offer to do the required work on a lump sum or unit price basis, as specified by the Engineer. The stated price, either lump sum or unit price, shall be divided so as to show that it is the sum of:

1. The estimated cost of Labor, plus
2. Direct Labor Cost, plus
3. Material and Freight Costs, plus
4. Equipment Costs, plus
5. An amount not to exceed 20% of the sum of items 1 through 4 for overhead and profit, plus (if applicable),
6. In the case of work done by a subcontractor an amount not to exceed 7 ½%, for the general contractor of the sum of the cost (not including subcontractor's overhead and profit) of items 1 through 4 for his overhead and profit (less, if applicable),
7. Credits for work deleted from the contract, including actual costs of the deleted work plus the percentage of overhead, profit, bonds and insurance attributable to such credit amount.

C. Payment for work on a time and materials basis:

Unless an agreed lump sum and/or unit price is obtained as noted above and is so stated in the change price, the Contractor shall accept as full payment for which no agreement is contained in contract, an amount equal to:

1. The estimated cost of Labor, plus
2. The Direct Labor Costs, plus
3. Equipment Costs, plus
4. Material and Freight Costs, plus
5. An amount not to exceed 20% of the sum of items 1 through 4 for overhead and profit, plus, if applicable,
6. In the case of work done by a subcontractor an amount not to exceed 7 ½%, for the general contractor of the sum of the cost (not including subcontractor's overhead and profit) of items 1 through 4 for his overhead and profit (less, if applicable),
7. Credit for work deleted from the Contract, including actual costs of the deleted work plus the percentage of overhead, profit, bonds and insurance attributable to such credit amount.

Explanation of items 1 through 7 as outlined in "B" and "C" above:

1. Labor - Only those workers employed on the project who are doing the extra work, including the foreman in charge, are allowable. General foremen, superintendents, or other supervisory personnel are considered to be included in the overhead markup as provided in items 5 and/or 6. Hourly labor rates in excess of those as listed in the contract wage rates require documentation. As a minimum, an explanation and the appropriate copy of the certified payroll are required.

2. Direct Labor Costs - These costs are limited to those which are required in the contract document. Coverage in excess of the contract provisions, secured by the contractor/subcontractor(s) at his option, are ineligible. The following list of typical direct labor charges is provided for your assistance and is in no way intended to be complete or all encompassing:

   Workman's Compensation

   Federal/State: Social Security Tax and Unemployment Tax;

   Health, Welfare and Pension Benefits; (this cost is included in the wage rates appearing in the Attachment A Massachusetts Wage Rates.

Liability insurance:	Bodily injury; excess umbrella; property damage; public liability
Blasters insurance:	If applied to any required direct labor costs
Builders risk insurance:	If applied to any required direct labor costs
Experience modification insurance:	If applied to any required direct labor costs
Surcharges:	If applied to any required direct labor costs

Following award and prior to execution of a construction contract, the Contractor and filed subbidders (where applicable) shall submit for review by the Owner, documentation to establish the markup percentage(s).

The documented direct labor markup for this contract may be adjusted on an annual basis as measured from the date the contract is executed. The contract agreement will provide for the establishment of the Direct Labor Cost percentage.

3. Material and Freight - Only those materials required as a result of the change order and reasonable freight charges for delivery of same are allowable.

4. Equipment - Only the equipment required as a result of the change order is allowable. Equipment rental rates shall be governed by the current EquipmentWatch, division of Intertec Publishing [Formerly Nielson/Dataquest] Rental Rate Bluebook for Construction Equipment (the "Bluebook"). In determining the rental rate the following shall apply:

a. For equipment already on the project - the monthly prorated rental rate by the hourly use shall be applicable;

b. For equipment not on the project the daily rate, the weekly rate, or monthly rate will prevail, whichever will prove to be most cost effective. Small tools and manual equipment are examples of costs not allowable under this item. These costs are considered to be included in the overhead markup as provided in items 5 and/or 6.

(1 Month (Normal Use) = 176 hours)

5.& 6. Overhead and Profit - All other costs not previously mentioned are considered to be included in this item, be it for the general contractor or subcontractor(s).

7. Credits - Work deleted, material and equipment removed from the contract, stored and/or returned shall be credited to the cost of the change order, less documented costs.

This change order will be prepared in such manner as to clearly separate Eligible and Ineligible Costs (as applicable to state-funded projects).

The Contractor shall furnish itemized statements of the cost of the work ordered and shall give the Engineer access to all accounts, bills and vouchers relating thereto; and unless the Contractor shall furnish such itemized statements, and access to all accounts, bills and vouchers, he shall not be entitled to payment for any items of extra work for which such information is sought by the Engineer.

APPENDIX A

CHANGE ORDER
(Enter Project Name)
(Enter Location)

Sheet __ of

Date_____

Project No. _____

Contract No. _____

Change Order No. _____

Owner's Name: _____

Owner's Address: _____

Contractor's Name: _____

Contractor's Address: _____

Item 1:

Description of Change:_____

Reason for Change:_____

Backup Information:_____

Cost: $_____

Item 2

Description of Change:_____

Reason for Change:_____

Backup Information:_____

Cost: $_____

Change Order (Continued)
(Enter Project Name)
(Enter Location)

Sheet __ of

Date_____

Project No. _____

Contract No. _____

Change Order No. _____

Contract Amount (As Bid) $_____

Amount of Previous Change Orders $_____

Net Change in Contract Price (this Change Order) $_____

Total Adjusted Contract Price (including this Change Order$_____

This Change Order extends the time to complete the work by ____ calendar days.

The extended completion date is _____.

This Change Order checked by: _____
Resident Representative Date

This Change Order is requested by: _____

This Change Order is recommended by:

_____
Consultant Engineer P.E. # Date

The undersigned agree to the terms of the Change Order.

_____
Contractor Date

_____
Owner Date

Certification of Appropriation under M.G.L. c.44, s.31C: Adequate funding in an amount sufficient to cover the total cost of this change order is available.

By: _____ _____
Certification Officer (Auditor, Accountant, Treasurer) Date

Do not write below this space: this space reserved for STATE AGENCY APPROVAL

_____

Appendix B
Example Calculation Sheet

1. Labor

Foreman	10 hours @	$10.00/hour	$100.00
Engineer	10 hours @	8.80/hour	85.00
Operator	10 hours @	9.50/hour	95.00
Laborers	24 hours @	7.00/hour	168.00
			$448.00

2. Direct Labor Cost (use the agreed upon Direct Labor Cost)

*(30)% of $448.
*(used for example purposes only) $ 134.00

3. Materials & Freight

150 1.f. of 12" pipe @ $2.00/1.f.	$ 300.00
15 v.f. precast SMH	1,700.00
Freight (slip#___ enclosed)	25.00
	$2,025.00

EXAMPLE

4. Equipment

1 Backhoe	10 hours @	$ 80.00/hour	$ 800.00
1 Truck-crane	10 hours @	100.00/hour	1000.00
			$1800.00

TOTAL (items 1 through 4): **$4,407.00**

5. (20%) markup for Overhead, Profit

(20%) of $4,407 $ 881.00

6. (7½ %) markup on subcontractor's cost for general contractor (if subcontractor is involved)

(7½ %) of $4,407 $ 331.00

7. Credits (deductibles) -$323.00

TOTAL COST: **$5,296.00**

Reminder: Provide support documentation as necessary i.e. vouchers, correspondence, calculation, photographs, reports**.**

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00830D - Change Orders.doc

SECTION 00890

PERMITS

1. General Requirements

A. The Owner has obtained or will obtain and pay for the permits listed below, which are required for this project. The Contractor shall assist in obtaining certain permits, as indicated. The Contractor shall obtain and pay for all other permits required, as defined under the Permits subsection of Section 00700, GENERAL CONDITIONS.

Permits by Owner	Status
Conservation Commission Order of Conditions (Ch. 131, s. 40)	(Attached)
NPDES Construction General Permit	*
Trench Permit (520 CMR 14.00)	*
*Contractor shall develop a stormwater pollution protection plan for this project and obtain the permit after contract is awarded. Contractor shall prepare permit application and obtain the permit after contract is awarded, bearing all expenses. Owner will pay for and/or waive the permit application fee, if applicable.	

B. The Contractor shall perform the work in accordance with the Contract Documents, including the attached permits/order of conditions, and any applicable municipal requirements.

2. Conservation Commission Orders

The Conservation Commission has under the authority of Massachusetts General Laws Chapter 131, Section 40, issued an Order of Conditions on the work under this contract. This Order is to become a part of the Contract Documents and the Contractor shall perform all work in strict conformance with said Order. A copy of this Order is attached to this section.

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\00890 - Permits.doc

SECTION 01110

CONTROL OF WORK AND MATERIALS

1. Hauling, Handling and Storage of Materials
2. Easements
3. Open Excavations
4. Maintenance of Traffic
5. Care and Protection of Property
6. Protection and Relocation of Existing Structures and Utilities
7. Maintenance of Flow
8. Rejected Materials and Defective Work
9. Sanitary Regulations
10. Safety and Health Regulations
11. Site Investigation
12. Hazardous Waste

1. Hauling, Handling and Storage of Materials

A. The Contractor shall, at his own expense, handle and haul all materials furnished by him and shall remove any of his surplus materials at the completion of the work.

B. The Contractor shall provide suitable and adequate storage for equipment and materials furnished by him that are liable to injury and shall be responsible for any loss of or damage to any equipment or materials by theft, breakage, or otherwise.

C. All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the work. Materials and equipment shall be kept neatly piled and compactly stored in such location as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.

D. The Contractor shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even though partial payments have been made under the Contract.

2. Easements

A. As indicated on the drawings, the work is located in easements obtained by the Owner. The Contractor has no rights outside of the easements unless they are obtained from the property owner.

B. Contractor shall schedule work so that it will cause minimum inconvenience and nuisance to abutting property owners, over the shortest possible time.

C. Easements shall be kept clean; no rubbish or discarded construction materials shall be allowed to accumulate. Storage of excess construction materials, including soil, ledge, equipment, or machinery on easements will not be allowed.

D. Restoration of fences, shrubs, trees and grass shall be completed promptly following completion of the work in an easement, to minimize disruption and inconvenience to property owners.

E. Unless approved by the Engineer, the use of easements for ease of access to and egress from other areas of the project will not be permitted.

3. Open Excavations

A. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe means for completely covering all open excavations and for accommodating travel when work is not in progress.

B. Bridges provided for access to private property during construction shall be removed when no longer required.

C. The length of open trench will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the Engineer.

D. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, then special construction procedures shall be taken, such as limiting the length of trench and prohibiting stocking excavated material in the street.

E. All street excavations shall be completely closed at the end of each work day. Backfilling or use of steel plates of adequate strength to carry traffic shall be used.

4. Maintenance of Traffic

A. Unless permission to close the street is received in writing from the proper authority, all excavated materials and equipment shall be placed so that vehicular and pedestrian traffic may be maintained at all times.

B. Should the Chief of Police deem it necessary, uniformed officers will be assigned to direct traffic. The Contractor shall make all arrangements in obtaining uniformed officers required.

C. The Contractor shall at his own expense, as directed by the Police Traffic Control/Safety Officer, provide and erect acceptable barricades, barrier fences, traffic

signs, and all other traffic devices not specifically covered in a bid item, to protect the work from traffic, pedestrians, and animals. He shall provide sufficient temporary lighting such as lanterns/flashers (electric battery operated) or other approved illuminated traffic signs and devices to afford adequate protection to the traveling public, at no additional cost to the Owner.

D. The Contractor shall furnish all construction signs that are deemed necessary by and in accordance with Part VI of the Manual on Uniform Traffic Control Devices as published by the U.S. Department of Transportation. In addition, the Contractor may be required to furnish up to 128 square feet of additional special construction warning signs. Size and exact wording of signs shall be determined by the Engineer during construction.

E. The intent of policing is to ensure public safety by direction of traffic. Police officers are not to serve as watchmen to protect the Contractor's equipment and materials.

F. Nothing contained herein shall be construed as relieving the Contractor of any of his responsibilities for protection of persons and property under the terms of the Contract.

5. Care and Protection of Property

The Contractor shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the Contractor, such property shall be promptly restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done, to the satisfaction of the Engineer.

6. Protection and Relocation of Existing Structures and Utilities

A. All existing buildings, utilities, pipes, poles, wires fences, curbings, property line markers and other structures which the Engineer decides must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the contractor. Should such property be damaged, it shall be restored by the Contractor, at no additional cost to the Owner.

B. The Contractor shall determine the location of all underground structures and utilities (including existing water services, drain lines, electrical lines, and sewers). Services to buildings shall be maintained, and all costs or charges resulting from damage thereto shall be paid by Contractor.

C. When fences interfere with the Contractor's operations, he shall remove and (unless otherwise specified) promptly restore them to a condition similar or equal to that existing before the fences were removed, to the satisfaction of the Engineer.

D. On paved surfaces the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment with treads or wheels which are shaped so as to cut or otherwise damage such surfaces.

E. All property damaged by the Contractor's operations shall be restored to a condition at least equal to that in which it was found immediately before work was begun. Suitable materials and methods shall be used for such restoration.

F. Restoration of existing property and structures shall be carried out as promptly as practicable and shall not be left until the end of the construction period.

7. Maintenance of Flow

A. The Contractor shall at his own cost, provide for the flow of sewers and drains interrupted during the progress of the work, and shall immediately cart away and dispose of all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Engineer well in advance of the interruption of any flow.

B. All existing drainage facilities including, but not limited to; brooks, streams, canals, channels, ditches, culverts, catch basins and drainage piping shall be adequately safeguarded so as not to impede drainage or to cause siltation of downstream areas in any manner whatsoever. If the Contractor damages or impairs any of the aforesaid drainage facilities, he shall repair the same within the same day.

C. At the conclusion of the work, the Contractor shall remove all silt in drainage structures caused by his operations to the satisfaction of the Engineer.

8. Rejected Materials and Defective Work

A. Materials furnished by the Contractor and condemned by the Engineer as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the Contractor, and shall not be made use of elsewhere in the work.

B. Any errors, defects or omissions in the execution of the work or in the materials furnished by the Contractor, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the Contractor and in a manner satisfactory to the Engineer.

C. The Contractor shall reimburse the Owner for any expense, losses or damages incurred in consequence of any defect, error, omission or act of the Contractor or his employees, as determined by the Engineer, occurring previous to the final payment.

9. Sanitary Regulations

Sanitary conveniences for the use of all persons employed on the work, properly screened from public observation, shall be provided in sufficient numbers in such manner and at such locations as may be approved. The contents shall be removed and disposed of in a satisfactory manner as the occasion requires. The Contractor shall rigorously prohibit the committing of nuisances within, on or about the work. Any employees found violating these provisions shall be discharged and not again employed on the work without the written consent of the Engineer. The sanitary conveniences specified above shall be the obligation and responsibility of the Contractor.

10. Safety and Health Regulations

This project is subject to the Safety and Health regulations of the U.S. Department of Labor set forth in 29 CFR, Part 1926, and to the Massachusetts Department of Labor and Industries, Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations (454 CMR 10.0 et. seq.)." Contractors shall be familiar with the requirements of these regulations.

11. Site Investigation

The Contractor acknowledges that he has satisfied himself as to the conditions existing at the site of the work, the type of equipment required to perform this work, the quality and quantity of the materials furnished insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the drawings and specifications made a part of this contract. Any failure of the Contractor to acquaint himself with available information will not relieve him from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner assumes no responsibility for any conclusion or interpretation made by the Contractor on the basis of the information made available by the Owner.

12. Hazardous Waste

Should the Contractor, while performing work under this contract, uncover hazardous materials, as defined in Massachusetts Hazardous Waste Regulations 310 CMR 30.00, he shall immediately notify the Engineer. The Contractor is not, and has no authority to act as, a handler, generator, operator or disposer of hazardous or toxic substances found or identified at the site, and the Owner shall undertake all such functions.

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\01110 - Control of Work & Mat'l.doc

SECTION 01140

CONSTRUCTION COORDINATION

1. Water for Construction Purposes
2. Pipe Location
3. Dimensions of Existing Structures
4. Occupying Private Property
5. Existing Utility Locations – Contractor's Responsibility
6. Coordination of Work
7. Time for Completion of Contract
8. Maintenance of Trench Surface
9. Compliance with Permits
10. Protection of Aquifer
11. Contractor's Representative
12. Visual Recording
13. Hours of Construction Activity
14. Construction Crews

1. Water for Construction Purposes

A. In locations where water is in sufficient supply, the Contractor may be allowed to use water without charge for jetting backfill and other construction purposes. The express approval of the Owner shall be obtained before water is used. Waste of water by the Contractor shall be sufficient cause for withdrawing the privilege of unrestricted use.

B. If no water is available, the Contractor shall supply water at no additional cost to the Owner.

2. Pipe Location

Pipe shall be located substantially as indicated on drawings. The Owner reserves the right, acting through the Engineer, to make such modifications as may be deemed desirable to avoid interference with existing structures or for other reasons.

3. Dimensions of Existing Structures

Where the dimensions and locations of existing structures are of critical importance in the installation or connections of new work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any material or equipment which is dependent on the correctness of such information.

4. Occupying Private Property

The Contractor shall not enter upon nor occupy with men, equipment or materials any property outside of the public highways or Owner's easements, except with the written consent of the property owner or property owner's agent.

5. Existing Utility Locations - Contractor's Responsibility

A. The location of existing underground services and utilities shown on the drawings is based on available records. It is not warranted that all existing utilities and services are shown, nor that shown locations are correct. The Contractor shall be responsible for having the utility companies locate their respective utilities on the ground prior to excavating.

B. To satisfy the requirements of Massachusetts law, Chapter 82, Section 40, the Contractor shall, at least 72 hours, exclusive of Saturdays, Sundays and holidays, prior to excavation in the proximity of telephone, gas, cable television and electric utilities, notify the utilities concerned by calling "DIG SAFE" at telephone number: 1-888-344-7233.

C. The Contractor shall coordinate all work involving utilities and shall satisfy himself as to the existing conditions of the areas in which he is to perform his work. He shall conduct and arrange his work so as not to impede or interfere with the work of other contractors working in the same or adjacent areas.

6. Coordination of Work

The General Contractor shall be responsible for coordinating his own work as well as that of any subcontractors. He shall be responsible for notification of the Engineer when each phase of work is expected to begin and the approximate completion date.

7. Time for Completion of Contract

The time for completion of this contract is stipulated in the Form of General Bid. The Bidder shall base his bid on completing the proposed work by the completion date stipulated in Section 00410, FORM OF GENERAL BID.

8. Maintenance of Trench Surface

After backfilling and compacting the trench, the Contractor shall be responsible for keeping the ground surface dry and passable at all times until the surface has been restored to original conditions.

9. Compliance with Permits

A. The Contractor shall perform all work in conformance with requirements of the Permits, which appear in Section 00890 - PERMITS.

10. Protection of Aquifer

The Contractor's attention is directed to the fact that the construction area is located within the watershed of the existing water supply. The Contractor shall take extra precautions to ensure that no pollutants enter the groundwater table from the construction area. The Contractor shall not store fuels or other hazardous materials or potential contaminants on the construction site. In the event of a spill, the Contractor shall immediately notify the Engineer.

11. Contractor's Representative

The Contractor shall designate a representative who will be available to respond to emergency calls by the Owner at any time day and night and on weekends and holidays should such a situation arise.

12. Visual Recording

Before beginning construction, the Contractor shall make a color video tape (VHS format) or DVD recording along the entire work length. One complete recording, for the entire project length, shall be furnished to the Engineer prior to the start of the work. The visual recording shall be identified by street name, as applicable, and station.

13. Hours of Construction Activity

A. The Contractor shall conduct all construction activity between 7:00 a.m. and 5:00 p.m., Monday through Friday. No construction work shall be allowed on Saturdays, Sundays or Holidays without written authorization from the Owner. The Contractor shall not interfere with activities related to “Wind Mill Weekend” (Town Parade in September).

B. The Owner will provide personnel for assistance in locating and operating valves at no cost to the Contractor during the Owner's normal working hours (Monday through Friday 7:00 a.m. to 3:00 p.m.). When this assistance is required by the Contractor outside of the Owner's normal working hours the cost will be incurred by the Contractor at the prevailing overtime rate of pay for the personnel providing the assistance. The Owner will bill the Contractor directly.

14. Construction Crews

The Contractor shall not increase the number of construction crews assigned to the work without providing one week advance notice to the Engineer.

END OF SECTION

SECTION 01330

SUBMITTALS

1. SHOP AND WORKING DRAWINGS

A. As required by the General Conditions, Contractor shall submit a schedule of shop and working drawing submittals.

B. In accordance with the accepted schedule, the Contractor shall submit promptly to the Engineer, through its authorized resident representative at the job site, or by mail (if to Weston & Sampson Engineers, attention: CSD), six (6) copies each of shop or working drawings required as noted in the specifications, of equipment, structural details and materials fabricated especially for this Contract.

C. Such drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish of shop coat, grease fittings, etc., depending on the subject of the drawings. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for this Contract.

D. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them. All shop and working drawings shall be prepared on standard size, 24-inch by 36-inch sheets, except those which are made by changing existing standard shop or working drawings. All drawings shall be clearly marked with the names of the Owner, Project, Contractor and building, equipment or structure to which the drawing applies, and shall be suitably numbered. Each shipment of drawings shall be accompanied by the Engineer’s (if applicable) standard shop drawing transmittal form on which is a list of the drawings, descriptions and numbers and the names mentioned above.

E. Only drawings which have been prepared, checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Contract Documents in all respects. Shop drawings shall be reviewed and marked with the date, checker's name and indication of the Contractor's approval, and only then shall be submitted to the Engineer. Shop drawings unsatisfactory to the Contractor shall be returned directly to their source for correction, without submittal to the Engineer. Shop drawings submitted to the Engineer without the Contractor's approval stamp and signature will be rejected. Any deviation from the Contract Documents indicated on the shop drawings must be identified on the drawings and in a separate submittal to the Engineer, as required under subsection 6.17 Shop Drawings and Samples; D. Submittal Procedures, Paragraph 3 of the 1996 General Conditions.

F. The Contractor shall be responsible for the prompt submittal and resubmittal, as necessary, of all shop and working drawings so that there will be no delay in the work due to the absence of such drawings.

G. The Engineer will review the shop and working drawings as to their general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections of comments made on the drawings during the review do not relieve the Contractor from compliance with requirements of the Contract Documents. The Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner. The review of the shop drawings is general and shall not relieve the Contractor of the responsibility for details of design, dimensions, code compliance, etc., necessary for interfacing with other components, proper fitting and construction of the work required by the Contract and for achieving the specified performance. The Engineer will review submittals two times: once upon original submission and a second time if a revision or corrections are required by the Engineer. The Contractor shall reimburse the Owner amounts charged to the Owner by the Engineer for performing any review of a submittal for the third time or greater.

H. With few exceptions, shop drawings will be reviewed and returned to the Contractor within 30 days of submittal.

I. No material or equipment shall be purchased or fabricated especially for this Contract nor shall the Contractor proceed with any portion of the work, the design and details of which are dependent upon the design and details of equipment or other features for which review is required, until the required shop and working drawings have been submitted and reviewed by the Engineer as to their general conformance and compliance with the project and its Contract Documents. All materials and work involved in the construction shall then be as represented by said drawings.

J. Two copies of the shop and working drawings and/or catalog cuts will be returned to the Contractor. The Contractor shall furnish additional copies of such drawings or catalog cuts when he needs more than two copies or when so requested.

2. <u>SAMPLES</u>

A. Samples specified in individual Sections include, but are not necessarily limited to, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols, and units of work to be used by the Engineer or Owner for independent inspection and testing, as applicable to the work.

B. The number of samples submitted shall be as specified. Submittal and processing of samples shall follow the procedures outlined for shop and working drawings unless the specifications call for a field submittal or mock-up.

C. Acceptance of samples will be acknowledged via a copy of the transmittal noting status. When samples are not acceptable, prompt resubmittal will be required.

3. OPERATING AND MAINTENANCE MANUALS AND SPARE PARTS LISTS

A. Where reference is made in technical specification sections to operating and maintenance manuals and/or spare parts lists, the Contractor shall submit four copies to the Engineer for review in accordance with the instructions furnished under "Shop and Working Drawings." If the submittal is complete and does not require any changes, an acknowledgement (copy of transmittal) will be returned noting status. If the submittal is incomplete or does require changes, corrections, additions, etc., two copies of the submittal will be returned with a copy of transmittal noting status. Four copies of the final operating and maintenance manuals and/or spare parts list shall be delivered to the Engineer prior to or with the equipment when it is delivered to the job site. For systems requiring field adjustment and balancing, such as heating and ventilating, the Contractor shall submit separate test results and adjustment data on completion of the work, to be incorporated into the system manual.

B. The information included in the manual shall be as described in the specification sections, but as a minimum shall contain clear and concise instructions for operating, adjusting, lubricating and maintaining the equipment, an exploded assembly drawing identifying each part by number and a listing of all parts of the equipment, with part numbers and descriptions required for ordering spare parts. Spare parts lists shall include recommended quantity and price.

C. Operating and maintenance manuals shall be in durable loose leaf binders, on 8½-inch by 11 inch paper, with diagrams and illustrations either on 8½-inch by 11 inch or multiple foldouts. The instructions shall be annotated to indicate only the specific equipment furnished. Reference to other sizes or models of similar requirement shall be deleted or neatly lined out.

END OF SECTION

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\01330 - Submittals.doc

SECTION 02000

SPECIAL PROVISIONS
EASTHAM, MASSACHUSETTS

Route 6/Salt Pond Bay Area Drainage Improvements

SCOPE OF WORK

The work under this contract consists of furnishing all necessary labor, materials and equipment required for the drainage improvements of a portion of Route 6. The work under this project consists of roadway and drainage improvements at various locations to Locust Road in Eastham, Massachusetts. The project site starts south of Rabbit Run, at Station 115+00, and continues north, at Station 169+00, as shown on the plans. The work includes, but is not limited to: installation of leaching basins and trenches, minor roadway reconstruction, land clearing and grubbing, earthwork, sediment and debris removal, subgrade preparation, and paving with bituminous concrete, installation of catch basins, pavement markings, and other appurtenances and incidental items as set forth in the construction documents and required to complete the work.

All work done under this contract shall be in conformance with the *Massachusetts Highway Department 1995 Standard Specifications for Highways and Bridges* and the *Supplemental Specifications* dated, June 6, 2006 and February 25, 2010, the 1996 *Construction and Traffic Standard Details* and the *Supplemental Drawings* dated April 2003, the *Manual on Uniform Traffic Control Devices 2009 Edition, the 1968 Standard Drawings for Traffic Signals and Highway Lighting;* the latest edition of *American Standard of Nursery Stock,* the *Plans* and these *Special Provisions*. *All Rules and Regulations of the Architectural Access Board (521 CMR 1.00 ET SEQ.) as Amended, the Drawings and these SPECIAL PROVISIONS.*

WITHDRAWAL OF PROPOSALS (Supplementing Subsection 2.07)

A bidder may withdraw a bid on a clear showing to the satisfaction of the Town of Eastham, Department of Public Works (DPW) that the bid amount resulted from bona fide clerical or mechanical error of a substantial nature or from other similar unforeseen circumstances. The DPW will return the bid deposit.

PROSECUTION OF WORK AND PROVISIONS FOR TRAVEL

Before starting any work under this Contract, the Contractor shall submit a schedule of operations as provided in Subsection 8.02 and shall become familiar with the existing conditions of the area in which he is to perform the work as stipulated in Subsection 2.03. He shall coordinate his work with the work to be done by the public utilities or other agencies and he shall so schedule his operations so as to cause the least interruption to the normal flow of traffic.

Work will not be allowed to begin until the Contractor has completed arrangements for obtaining all materials essential for the reconstruction.

Construction work on the project shall not commence until the construction signing and traffic barriers have been installed and approved by the Engineer.

The Contractor, as shown on the Contract Drawings and as directed by the Engineer, is responsible for furnishing, erecting, and maintaining the temporary signing of the roadways and the proper removal of the signs upon the completion of the project. Temporary traffic devices and barricades shall be placed and utilized in conformance with Section 850 of the 1988 Standard Specifications and the 2000 Manual on Uniform Traffic Control Devices millennium edition.

Particular care shall be taken to establish and maintain such methods and procedures as to not create hazards. Access to abutting properties shall be maintained in a reasonable and safe manner for the duration of the construction period.

As necessary and/or as directed by the Engineer, uniformed traffic police shall be employed for the protection and maintenance of traffic. Reasonable facilities shall be provided by the Contractor for the convenient and safe passage of pedestrians and vehicles through the project and also from properties abutting the site of improvement. Particular care shall be exercised at all times to establish and maintain such methods and procedure as will not create hazards.

The Contractor shall assign a responsible person to coordinate the construction activities with the Fire and Police Chief through the Engineer. This will ensure that satisfactory access for emergency vehicles shall be maintained at all times. Any detours shall be approved by the Owner after consultation with the Town of Eastham Fire Chief and Police Chief prior to implementation.

The Contractor shall submit a detailed construction sequence to the Owner 30 days prior to commencing any construction activity, which would restrict normal traffic flow within the project limits. The construction sequence must be approved by the Owner.

Every reasonable effort shall be made to reduce to a minimum any interference with or any inconveniences to business concerns and other abutters on account of the construction work. Excavated material shall be trucked away and returned if the Engineer deems it necessary and practical as a means for avoiding serious interference with and inconvenience to business concerns and abutters.

At the end of each day's activities or when work is not in progress, the Contractor shall leave the streets in a condition such that each abutter has acceptable vehicular and pedestrian access to their property.

PROTECTION AND RESTORATION OF PROPERTY

The Contractor, in constructing or installing facilities alongside or near sewers, drains, water or gas pipes, electric or telephone conduits, poles or other structures shall, at his expense, sustain them securely in place, cooperating with the officers and agents of the various utility companies

and municipal departments which control them, so that the services of these structures shall be maintained. The Contractor shall also be responsible for the repair or replacement, at his own expense, of any damage to such structures caused by his acts or neglect, and shall leave them in the same condition as they existed prior to the commencement of work.

The plans indicate the approximate location of existing known subsurface utilities in the vicinity of the work, the accuracy and completeness of the information is not guaranteed. Before commencing any work or operations which may endanger or damage any subsurface structures, the Contractor shall carefully locate all such structures by hand tool excavation and shall conduct his operations in such manner as to avoid damage thereto. The Contractor shall not interrupt live services until new services have been provided. All abandoned services shall be plugged as directed by the Engineer or otherwise made secure. Dig Safe Call Center, 888-344-7233

In case of damage to utilities, the Contractor shall promptly notify the owner and shall, if requested by the Engineer, furnish laborers to work temporarily under the owner's discretion in providing access to the utility. Pipes or other structures or property damaged by the operation of the Contractor may be repaired by the Town of Eastham, private owner, or by the utility company, which suffers the loss. The cost of such repairs shall be borne by the Contractor, without compensation.

If, as the work progresses, it is found that any of the utility structures are so placed as to render it impractical, in the judgment of the Engineer, to do the work called for under this Contract, the Contractor shall protect and maintain the services in such utilities and structure and the Town will, as soon thereafter as it reasonably can, cause the position of the utilities to be changed or take such other action as it deems suitable and proper.

If live service connections are to be interrupted by excavations of any kind, the Contractor shall not break the service until new services are provided by the Town or the utility company affected.

Full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in protecting or repairing property as specified in this section, shall be considered as included in the prices paid for the various contract items of work, and no additional compensation will be made.

Any and all grassed areas that are disturbed shall be promptly loamed and seeded. All driveway aprons shall be cut back to transition into the new roadway. Gravel fill and loam and seed will be necessary at some shoulder locations to transition into residents' front yards. The driveway asphalt removal and grading work shall be compensated for under the driveway preparation item. The bituminous concrete mix placed on these aprons will be paid for under the bituminous concrete, hand placed item.

All limits-of-work at intersections shall be saw cut. Access to all abutting properties by the respective owners shall be maintained at all times, as is reasonable. Standard hours of construction are between 7:00 AM and 4:30 PM Monday through Friday. Work on Saturdays will be permitted only with prior approval of the Engineer.

INSPECTION

All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection, (such assistance may include furnishing labor, tools, equipment, etc., at no expense to the DPW).

If the Engineer so requests, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed, will be at the Contractor's expense.

The Contractor shall furnish written information to the Engineer stating the original sources of supply of all materials manufactured away from the actual site of the work. In order to insure a proper time sequence for required inspection and approval this information shall be furnished at least two weeks (or as otherwise directed by the Engineer) in advance of the incorporation in the work of any such materials.

For the purpose of observing work that affects their respective properties, inspectors for the municipalities, public agencies and the utility companies shall be permitted access to the work, but all official orders and directives to the Contractor will be issued by the Engineer.

Such inspection shall in no sense make any unit of government or political subdivision a party to this Contract, and shall in no way interfere with the rights of either party hereunder.

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill the terms of the Contract as herein prescribed by the plans and specifications.

Failure to reject any defective work or materials shall not in any way prevent later rejection when such defect is discovered, nor obligate the Town to make final acceptance.

The Contractor shall give prior notice to the Engineer/Owner when work on the various items is to be performed by him or his Subcontractors. If work is suspended on any item, prior notice shall be given to the Engineer/Owner before resumption of such work. Except in case of an unforeseen emergency, neither the Contractor nor any Subcontractor shall perform any work requiring inspection at hours other than during the normal workday without prior approval of the Engineer/Owner.

MEETINGS

DESCRIPTION

This section describes the Contractor's responsibility with respect to kick-off meetings, construction progress meetings, close out meetings and other meetings related to the work contained in this Contract.

PRE-CONSTRUCTION MEETING

The Contractor and all Subcontractors to perform work under this Contract shall attend a pre-construction meeting with the Owner, Engineer, and/or Designer. The meeting shall include a site visit and shall address start dates of construction, schedule, acceptable layout areas, and all issues regarding construction.

The Pre-Construction meeting shall be held no less than one week prior to start of any construction, delivery or storage of materials or equipment, or any work on the site.

PROGRESS MEETINGS

During construction, progress meetings will be held bi-weekly. The Contractor or his representative shall attend each progress meeting. The bi-weekly progress report and schedule update shall be delivered to the Town at least 24 hours prior to each scheduled progress meeting. The purpose of the meetings is to review progress, address the concerns of the Owner, Designer, and Contractor, and to review the schedule and related issues.

The bi-weekly progress meeting shall be held at the site or at the Town of Eastham DPW Office on 555 Old Orchard Road.

PROJECT CLOSE OUT MEETING

At the end of construction and prior to the final payment to the Contractor, a project closeout meeting shall be held. The Contractor shall attend this meeting. The purpose of the meeting is to review the finished work with respect to the Contract, develop a punch list of outstanding work to be performed, address problems and concerns with the quality or completeness of work, and review original schedule and final end date.

SUBMITTALS

DESCRIPTION

This Section specifies the types of submittals required throughout the project. The Contractor shall submit the following information in the manner described herein.

SHOP DRAWINGS

Shop Drawings shall be submitted by the Contractor to the Engineer for all products specified within these Specifications and indicated or implied on the Drawings. The Contractor shall provide the Engineer, within ten (10) days of receipt of the Contract, written evidence that he/she has ordered the Shop Drawings for the materials for which Shop Drawings are required on the subject Contract. The Shop Drawings shall be submitted at least 30 days prior to scheduled use of the product for review by the Engineer.

Each Shop Drawing shall include the specifications of the product, material content, physical and chemical parameters, testing results, dimensions, qualifications, color choices, samples (if specifically required) and Drawings (if specifically required).

Exactly six (6) copies of Shop Drawings shall be submitted to the Engineer or designated representative. The submitted Shop Drawings shall be stamped and signed by the Contractor with a statement indicating that the Contractor has reviewed the Shop Drawings and accepts the product. Upon receipt of the Shop Drawings the Engineer will review the product information to determine acceptability based on the Contract Documents. The Engineer shall return at least two (2) copies of the reviewed Shop Drawings to the Contractor with a memo detailing the Engineer's review. In the case that the Shop Drawing is rejected, the Engineer will return four (4) copies to the Contractor with a reasonable explanation as to why the product was rejected. The following comments shall be used to summarize the Engineer's review.

No Exceptions Taken - The Shop Drawing is accepted as submitted with no exceptions.

Make Corrections as Noted - The Shop Drawing is accepted as submitted under the condition that the noted corrections will be made as indicated.

Revise and Resubmit - The Shop Drawing is rejected as submitted but may be revised and resubmitted for review.

Rejected - The Shop Drawing is rejected as submitted, the product listed is not acceptable.

The Engineer reserves the right to reject a product which is not in conformance with these Specifications, the Drawings, or is not of the required quality to maintain the specified product requirements for a reasonable length of time. Any material or equipment installed before it is approved shall be removed and replaced by the Contractor with material or equipment acceptable to the Engineer at no additional cost to the Owner.

PROGRESS REPORTS

The Contractor shall submit progress reports on a bi-weekly basis to the Owner and the Engineer.

SCHEDULE

The Contractor shall submit a comprehensive construction schedule to the Owner for review due upon issuance of the Notice to Proceed at least thirty (30) days prior to the start of work. The construction schedule shall demonstrate in detail the means by which the Contractor will perform the work specified herein in the time allotment stated in the Contract Agreement. The

Contractor shall not begin any work until the Engineer has reviewed and approved the submitted construction schedule.

The construction schedule shall contain all significant tasks with anticipated start date and end date. The schedule shall identify landmark tasks, critical tasks, dependent tasks and duration for each task in days.

The Contractor shall submit an updated schedule each month at the meeting. The updated schedule shall include all information described above. If the updated schedule indicates that a delay is anticipated in the final end date, the Contractor shall submit to the Engineer/Owner a written reason for the delay, possible remedy, and justification for the new end date. The Engineer/Owner shall review the statement to determine if the Contractor is responsible for the delay. If found responsible, the Contractor shall be fined in accordance with the General Conditions.

If the Contractor is deemed not responsible, the contract duration will be extended in accordance with the General Conditions.

CERTIFIED PAYROLLS

The Contractor shall submit to the Owner certified payrolls weekly.

GEOTEXTILE FILTER FABRIC

The work shall consist of furnishing and installing approved geotextile filter fabric at the locations and in manner shown on the plans or as directed by the Engineer.

The geotextile fabric Shall be non-woven and conform to the requirements of Subsection M9.50.0 Type IV of the standard specifications, around proposed leaching basin, leaching galley, perforated pipe or as directed by the Engineer.

Riprap, stone filling (heavy) or stone filling (medium) shall not be dropped onto the geotextile from a height greater than 12 inches. Slope protection and smaller sizes of stone filling shall not be dropped onto the geotextile from a height exceeding 3.0 feet.

The surface upon which the geotextile is to be placed shall be within reasonable conformity to the proposed grade. The geotextile shall be laid loosely, so that placement of the overlying material will not stretch or tear the geotextile. The overlying course shall be placed in one (1) lift and compacted as approved by the Engineer. Payment for this work shall be included in the respective bid items.

PIPE LOCATION

Pipe shall be located substantially as indicated on drawings. The Owner reserves the right, acting through the Engineer, to make such modifications as may be deemed desirable to avoid interference with existing structures or for other reasons.

CONSTRUCTION BASE LINES, STAKES, AND GRADES

Upon notice to proceed, the Contractor will be provided with layout data referencing existing control points. Tie locations and coordinates will be given to the baseline data.

The Contractor will be responsible for the following survey work:

A. Establish baseline or center line of construction of main roadway, service roads, and side streets. Reproduction of baselines and center lines, or lines offset from the, when roadway cut and fill have been completed.

B. Benchmark control for the project.

C. Original grade stakes at 50-ft. intervals.

D. Bound points and sideline stakes.

E. Control for alignment of curbing or edging and at other complicated locations.

F. All necessary locations for pipes and headwalls, and establish all catch basin and manhole locations as to line and grade.

The Contractor shall be responsible per initial layout stakes and marks, and if any of the Construction stakes or marks have been removed, destroyed or disturbed by the construction activities, the cost of replacing them will be the Contractor's responsibility. Replacement of all "initial" layout control points and bench marks shall be performed by or under the direction of a licensed Land Surveyor.

The Contractor shall perform all necessary layout work not specified above in order to construct all elements of the project as shown on the plans and specified in the Contract. This work shall include, but shall not be limited to, stakeout necessary for the re-establishing of lines and grades as earthwork operations progress, stakeout, layout, and elevation as required for structures, forms, pipe layout, and paving. Prior to paving, the Contractor shall perform all work necessary to set the blue top stakes for fine grading.

The Contractor shall perform all required layout work with competent, qualified personnel in a manner consistent with the current practices of the Department and acceptable to the Engineer. Any error, apparent discrepancy, or absence of data in the Department's "initial" layout shall be referred to the Engineer in writing for correction and interpretation. The Contractor is solely responsible for the accuracy of the work. All computations necessary to establish the exact position of the work from control points shall be made and preserved by the Contractor. All computations, notes, and other records shall be made available to the Engineer upon request.

The Engineer may check any and all portions of the layout, stakeout, or notes made by the Contractor. The Contractor shall make any necessary correction to the work immediately. Such checking by the Engineer will not relieve the Contractor of any responsibilities for the accuracy and completeness of the work.

No claim will be considered because of alleged inaccuracies unless the Contractor notifies the Engineer thereof in writing immediately upon discovery of the alleged inaccuracies and affords the Engineer the opportunity to check or verify the stakes or marks in question.

COOPERATION BY CONTRACTOR (Supplementing Subsection 5.05; 5.06)

The Contractor's attention is directed to the provisions relating to rights of public agencies, utility companies, and municipal departments to enter the site of the improvement and alter, replace and/or install facilities at the same time when the Contractor will be prosecuting required work contiguous thereto.

No additional payments will be allowed for any disruption of the work schedule caused by or required to coordinate work under this Contract and work to be performed by others.

MATERIALS REMOVED AND STACKED

The Contractor shall carefully remove materials as designated on the project by the Engineer for their subsequent delivery to the Owner. He shall furnish the necessary labor and equipment necessary for the delivery at the time and location designated by the Owner. Payment for this work shall be included in the respective bid items.

ASPHALT THERMOMETERS (Supplementing Subsection 460.60)

The Contractor shall supply an approved Infrared Pistol Thermometer and a Dial Type Asphalt Thermometer for each paving machine in operation on the project.

Thermometer will remain the property of the Town of Eastham DPW.

PUBLIC SAFETY AND CONVENIENCE (Supplementing Subsection 7.09)

The Contractor's attention is directed to the fact that the work on this project is to be performed on streets, which are utilized by pedestrians as well as by vehicles. The Contractor shall be responsible for the installation of adequate precautions and other safety measures and controls deemed necessary by the Engineer. Any automotive equipment not protected by traffic cones or flares that are operating on a public way under this project shall have one amber flashing warning light mounted on the cab roof or on the highest practical point of the machinery. This light shall be in operation while the equipment is so working.

Trenches shall not be opened in traveled ways until all material and equipment required for the work are on the site and available for immediate use. The work at each trench shall be practically continuous, with the placing of utilities, backfill and patching of the surface closely following each preceding operation. When work is not in progress, trenches in areas subject to traffic shall be covered with steel plates capable of safely sustaining a 36.5-ton truckload with impact.

The Contractor shall provide traffic signs, warning markers and other construction safety measures including reflectorized drums, illuminated barricades, temporary pavement markings and police, as necessary, to maintain public safety and optimum traffic flow. Costs for police details will be paid directly by the Town. Parking will be prohibited in construction areas as directed.

With suspension of construction activities during holidays, weekends and nights, the Contractor shall remove temporary traffic control devices, as requested, and return them to their positions when work begins again. Signs that do not apply to existing conditions shall be removed, covered or turned so as not to be readable by oncoming traffic. No additional payment will be made for moving or covering the above traffic control devices beyond the original payment for each item.

The Contractor shall provide and maintain access and egress at all times to all properties abutting the work.

At the end of each working day where trenches in areas of public travel are covered with steel plates, each edge of such plates shall either be beveled or protected by a slope of 3 feet horizontally to 2 Inch vertically. Any temporary patching materials and their maintenance and removal will be considered incidental to the item involved with no separate payment.

The Contractor shall without additional compensation be required to maintain access to the project area for fire apparatus and other emergency vehicles at all times.

Payment for this work shall be included in the respective bid items.

DRAINAGE

It shall be the Contractor's responsibility to maintain drainage, functioning properly, in the areas under construction prior to the time when the final system is put into use.

Catch basins, which will not require a curb inlet, shall be provided with a four-flange frame.

Wherever new pipe is to be connected to existing structures the void around the pipe shall be filled with mortar to form a watertight seal. The Contractor shall receive no additional compensation for filling such voids.

All pipes and structures within the limits of the Contract shall be left in a clean and operable condition at the completion of work. It shall be the responsibility of the Contractor to make certain that all drainage systems, new or existing, that carry drainage run-off from limits of this project operate efficiently to their point of discharge before final acceptance of work.

All drainage casting, manhole covers, catch basin grades and others shall be set to conform to the required grades, and the Contractor shall see that all such settings or resetting are substantially and accurately done conforming with the new grades.

All of the above work shall be included under the relevant drainage items without additional compensation. Any adjustments made to new drainage structures will be included under the contract unit price for each respective structure.

BOUNDS

The Contractor shall exercise due care when working around all property and street bounds which are to remain. Should any damage to a bound result from the actions of the Contractor, it shall be replaced and/or realigned by the Contractor as directed by the Engineer. No further compensation will be due the Contractor for the materials and labor required to reestablish the bound in its proper orientation. A Land Surveyor registered in the Commonwealth of Massachusetts shall install all bounds replaced or realigned.

TEMPORARY EROSION AND SEDIMENT CONTROL (Supplementing Subsection 7.02)

In general, temporary erosion and sediment control consists of, but is not limited to, prevention of pollution of land, air and water and for controlling erosion and runoff to earth and silt, etc., during construction. Sediment control shall be accomplished so as to preclude sedimentation of the drainage system on the project site.

The work shall include, but is not limited to, the placement of hay bales and/or silt fence at the toe of slopes and all drainage inlets.

CONSTRUCTION REQUIREMENTS

Soil erosion and sediment control shall conform to applicable local codes and requirements. The Contractor shall submit to the Engineer in writing a plan for erosion control before commencing work.

The following conditions shall be strictly adhered to unless otherwise directed by the Engineer:

a. Grading shall be accomplished and erosion control established such that existing surface drainage is not impaired and a potential hazard is not created, hazardous erosion shall not occur or sediment shall not collect in existing streams or drainage systems of adjacent properties, streets and highways.

b. Runoff drainage shall be piped into storm drains before it can cause erosion, if such is feasible, or it shall be directed into stable areas at non-erosive velocities in a manner consistent with established good practices for erosion control.

c. During the installation of utility lines the work shall be performed so as to prevent sedimentation of the adjacent drainage system.

Repeated failures by the Contractor to control erosion, pollution and/or siltation shall be cause for the Engineer to employ outside assistance or to use his/her own forces to provide the necessary corrective measures. The cost of such assistance, plus project engineering costs, shall be charged to the Contractor and appropriate deductions will be made from any moneys due or to become due to the Contractor.

SAFETY CONTROLS FOR CONSTRUCTION OPERATIONS

TRAFFIC CONTROL

Traffic control, traffic patterns and/or traffic flow will be governed by the Engineer or Owner's Representative. Consideration will be given to all parties in making final determinations.

All temporary barriers, traffic control signs and warning beacons will be provided and maintained by the Contractor and will be paid under the appropriate line item. The number of barriers, signs and beacons and their respective location will be determined by the Engineer or Owner's Representative.

Emergency vehicles, school buses and residents adjacent to the work area shall be guaranteed access through the work area at all times, unless otherwise directed by the Engineer. No additional compensation will be allowed for maintaining said access.

The safe passage of pedestrian and vehicular traffic around the perimeter of the construction/work area, within reasonable limits, shall be guaranteed at all times by the Contractor. Temporary pedestrian walkways may be required by the Engineer at no additional compensation to the Contractor.

POLLUTION CONTROL

The Contractor shall maintain a clean and pollution free site at all times and under all conditions. Waste generated shall be contained on the site and removed on a daily basis. Storage of contaminated materials which have been found at the site and which could potentially contaminate soil and/or groundwater shall not be stored directly on the ground surface but shall be completely contained to the satisfaction of the Engineer. Such materials shall not remain on the site for extended periods of time.

Runoff from the construction site shall be controlled so as not to contaminate groundwater, surface water, soils or other environmental features.

All equipment used for construction, stored at the site, or on the site for any reason shall be free from leaks of oil or hazardous materials and shall not generate excessive exhaust or smoke to pollute the air.

The noise generated by the construction operations at the site shall not be in excess of what is necessary to complete the work described herein. Excess noise due to fault equipment will not be permitted.

SAFETY

The Contractor shall utilize the Traffic Management Plan provided on Plan Sheet 12 of 12 of the contract documents.

It is the responsibility of the Contractor to maintain the project in accordance with the following safety standard: Industrial Bulletin No. 12. Rules and Regulations for the Prevention of Accidents in Construction Operations (effective April 19, 1967 or latest) as published by the Massachusetts Department of Labor and Industries, Division of Industrial Safety.

LIMITS OF WORK

The Contractor shall keep all work within the limits of work as identified on the Drawings and specified herein unless otherwise directed and approved by the Owner. Work outside the limits shall be controlled in accordance with this section and shall be restored to the conditions found prior to disturbance.

DUST CONTROL

A systematic method of Dust Control shall be maintained by the Contractor, using calcium chloride, in accordance with Section 440 of the 1988 edition of the Comm. of MassHighway Std. Spec. For Highway and Bridges, as amended or as otherwise approved by the Engineer.

PROTECTION OF UNDERGROUND FACILITIES

The Contractor's attention is directed to the necessity of making his own investigation in order to assure that no damage to existing structures, utilities, gas, drainage lines will occur.

PROTECTION AND RESTORATION OF UTILITIES AND PROPERTY
(Supplementing Subsections 5.05 and 7.13)

The Contractor is to call the "Dig Safe" organization at 1-888-344-7233 before work is started so that the "utilities" can tour the job site to identify points of conflict.

Written notice shall be sent to utilities ten (10) days in advance of any work that may affect their utility. A copy of each notice shall be provided to the Engineer. In addition, the Contractor shall give seventy-two (72) hours verbal notice of intention to commence operations.

The Contractor must provide safe access to all commercial and residential properties within the project area. The Contractor must provide written notice forty-eight (48) hours in advance to all abutters of proposed sidewalk and driveway reconstruction.

In case of damage to utilities, the Contractor shall promptly notify the owner and shall, if requested by the Engineer, furnish laborers to work temporarily under the owner's direction in providing access to the utility. Pipe or other structures damaged by the operation of the Contractor shall be repaired by the Town of Eastham or the utility company owner. The cost of such work shall be borne by the Contractor, without compensation therefore.

WORK DONE BY OTHERS

The Contractor shall be responsible to coordinate all work with local utility companies at no additional cost to the owner. If adjustments to any utility become necessary (mains, services,

gates, etc.), the Contractor shall cooperate with the utility and allow time for work to be completed.

NOTICE TO OWNERS OF UTILITIES

Written notice shall be given from the Contractor, to all public service corporations or officials owning or having charge of public or private utilities of his intention to commence operations affecting such utilities at least one week in advance of the start of such operations. The Contractor shall at the same time file a copy of said notice with the Engineer.

Before the Contractor begins any work or operations, which might damage any subsurface structures, he shall carefully locate all such structures and conduct his operations so as to avoid any damage to them.

Following are the names and addresses of the companies or agencies, which may be affected, but the completeness of the list is not guaranteed.

OWNERS OF UTILITIES

Mr. Neil Andres Tel: (508) 240-5973
Town of Eastham
Department of Public Works
555 Old Orchard Road
Eastham, MA 02642

Gas
Ms. Julie Birch C/O Tel: (508) 760-7484
Key Span Energy Delivery
127 White Paths
South Yarmouth, MA 02664

Debbie Keene McCallion Tel: (978) 322-3681
Mapping Dept. – National Grid
deborah.keene-mccallion@us.ngrid.com

Verizon
Sharon Connell Tel: (781) 939-3555
285 Locust Street
Woburn, MA 01801

Electric
Mr. Steve Owens Tel: (781) 441-8709
NSTAR Electric
1 Nstar Way, NE SE370
Westwood, MA 02090-9230

Police
Town of Eastham Police Department Tel: (508) 255-0551
Richard R. Hedlund

Chief of Police
2550 Route 6
Eastham, MA 02642

Dig Safe Center Tel: 888-344-7233
(Massachusetts law requires
you call Dig Safe at least 3
business days prior to
Commencement of digging
Operations)

PRECAUTIONS UNDER ELECTRIC LINES

The Contractor's attention is directed to the AASHTO Guide on Occupational Safety on Highway Construction Projects, Sub-part N, 1926.550, relating to construction equipment clearances at overhead electric lines, which states in part of the minimum clearance between the lines and any part of the crane or load must be at least ten feet from lines rated 50 KV or below and greater distances for higher voltage.

For the protection of personnel and equipment, the Contractor shall be aware of these regulations especially during paving operations using large semi-trailer vehicles.

DISPOSAL OF SURPLUS EXCAVATED MATERIALS

Surplus material obtained from any type of excavation and not needed for further use as determined by the Engineer, shall be disposed of by the Contractor outside the location subject to the regulations and requirements of local authorities governing the disposal of such materials, at no additional compensation. Payment for this work shall be included in the unit price under the applicable item from which the material was obtained.

SAWCUTS

Sawcuts shall be made in existing pavement in areas where new surfaces abut old surfaces and as directed by the Engineer.

Edges of excavations made in existing pavements shall be squared by saw cutting with power driven tools to provide a neat clean edge for joining new pavement as shown on the plans. Pavement areas, which have been broken or undermined, shall be neatly edged with minimum disturbance to remaining pavement.

Payment for this work shall be included in the unit price under the applicable items.

ITEM 102. SELECTIVE CLEARING AND GRUBBING LUMP SUM

The work under this item shall conform to the applicable provisions of Section 102, with the following additions and revisions:

The Contractor shall discuss the limits of clearing and grubbing needed for the construction of the proposed work. Other areas may be included in this item at the direction of the Owner or Engineer to assist with increasing site distance. Only such trees as have a shortest diameter (at the cut-off point, 4" from the ground) of 6 inches and less than 24 inches shall be included in the item of Trees Removed (Diameter Under 24 inches). All vegetation smaller than 6 inches shall be included in this lump sum item.

The Contractor's attention is directed to the provisions of the Scenic Road Law Section 15C of Chapter 40 or the Massachusetts General Laws. The Contractor shall comply with this Law for Scenic Road classification and construction.

The Contractor may, at his option; dispose of stumps off-site at a site acceptable to the Engineer, providing that first the Contractor has obtained the necessary permits.

Except for stumps, the Contractor may at his option salvage timber from trees in excess of 12" in diameter.

All trees to be removed shall become the property of the Contractor and the satisfactory disposal of the wood in such trees outside right-of-way shall become his responsibility.

The Contractor shall comply with the provisions of Chapter 111, as amended, of the General Law of the Commonwealth, pertaining to and establishing the Air Pollution Control Districts in the Commonwealth. The burning of trees, brush, etc. will not be permitted. The Contractor shall provide other satisfactory, approved methods of disposal without additional compensation.

The Contractor shall satisfactorily protect trees during all construction operations.

All costs in connection with Selective Clearing and Grubbing, including incidental excavation not specifically included under other items of work, shall be included under the contract unit price for this item. Excavation for disposal of stumps shall be included under this item.

ITEM 120.1 UNCLASSIFIED EXCAVATION CUBIC YARD

Work under this Item shall conform to the applicable provisions of Section 120 of the Standard Specifications and the following:

This Item includes the removal and disposal of all materials indicated or required to be removed, for which neither the Specifications nor the Proposal direct a separate payment, with no additional compensation.

Unclassified excavation shall include the removal and disposal of earth, pavements (reinforced or not reinforced), muck, sidewalks, grassed and graveled areas, walls, landscape timbers, railroad ties, and where removal is required or directed and not paid for under other items of work; miscellaneous debris, timbers, junk or scrap; and, when no longer required and/or when condition of items to be removed are unsuitable for reuse (and not paid for under other items of work). The work under this Item shall also include excavation to roadway sub-grade, the removal and disposal of curbing, edge stone, and other appurtenances.

The Contractor shall perform all excavation in such a manner as to maintain slopes both longitudinally and laterally to insure proper and continuous drainage at all times.

Disposal of materials unsuitable for reuse and materials designated as excess and not required on the project shall be taken away from the project and shall be the sole responsibility of the Contractor. This work shall be in accordance with the regulations and requirements of all municipalities or agencies having jurisdiction over the disposal sites and the routes between the project and the disposal sites; and shall be as stipulated in Subsections 120.20 and 120.60, B, as amended as follows:

Disposal permits for all materials to be wasted off the project site shall be obtained by the Contractor from the Federal, State or Municipal agency or agencies having jurisdiction over the proposed waste sites. The Contractor shall keep the Engineer informed as to the location of the intended disposal sites and shall show proof of permit.

Class B Rock Excavation is not included under this Item.

"Method of Measurement" and "Basis of Payment" shall be as stated under Section 120 of the Standard Specifications.

ITEM 146. DRAINAGE STRUCTURE REMOVED EACH

Work under this Item shall conform to all relevant provisions of Section 140 of the Standard Specifications and the following:

The Contractor shall deliver any castings or curb inlets from removed drainage structure as directed by the Engineer to Eastham DPW Yard.

Method of Measurement: Measurement shall be made by the Unit Price per Structure Removed.

Basis of Payment: The work to be done under this Item shall be paid at the contract unit price bid (each) under Item 146. and shall be considered full compensation for all labor, tools, equipment, materials, loading, transportation, approvals, and permits necessary for the completion of the work. Payment for frames and grates or covers removed and stacked will be paid for under Item 223.1.

ITEM 148.5. SEDIMENT AND DEBRIS REMOVAL LF

ITEM 170. FINE GRADING AND COMPACTING – SUBGRADE AREAS SQ. YD.

Work under this Item shall conform to all relevant provisions of Section 140 of the Standard Specifications and the following:

Before surfacing or sub-base is spread. The subgrade shall be shaped by the contractor to a true surface conforming to the proposed cross section of the roadway and compacted and graded without additional compensation and in accordance with the provisions of Subsection 150.60 and 150.62. The embankment materials shall be compacted to the not less than 95 percent of the maximum dry density of the embankment material as determined by AASHTO Standard Method of Test T99, Method C at optimum moisture content without additional compensation.

Payment for the shaping, grading, compacting, the grading and finishing of all unpaved shoulders and slopes, and the preparation of all areas for topsoil, loam shall be paid for at contract unit price per square yard, which price shall include the furnishing and installing of materials, tools, labor, and incidental expenses necessary to complete this work.

ITEM 201.	CATCH BASIN	EACH
ITEM 222.	FRAME AND GRATE	EACH

The work shall consist of the construction of manholes, inlets and basins in accordance with all relevant provisions of Section 200 of the Standard Specifications and in close conformity with the details, lines and grades shown on the plans.

The contractor shall install 12-inch hood in each proposed catch basin as indicated on the drawings.

Payment for work to be done under these Items shall be by the unit price per each, which price shall include the furnishing and installing of all necessary materials, crushed stone, filter fabric, tools, labor, and incidental expenses necessary to complete this work.

CONSTRUCTION METHODS
Installation

Installation shall be in strict accordance with the manufacturer's recommendations and conform to al applicable state, federal and local regulations.

MEASUREMENT AND PAYMENT
Measurement
Outlet Control Manholes shall be measured per each of units installed.

Payment

Payment shall be made at the contract unit price per EACH of units complete, in place, and accepted by the Engineer. The contract unit price shall include excavation, backfilling, furnishing and installing manholes, geotextile filter fabric, crushed stone, compaction, and all other materials, equipment, and labor required to install the manhole as shown on the Drawings, complete and in place. Pipe connections shall be paid under Item No. 252.12 12 Inch Corrugated Plastic (Polyethylene) Pipe.

ITEM 205.1	LEACHING BASIN	EACH

CONSTRUCTION METHODS

Installation

Installation shall be in strict accordance with the manufacturer's recommendations and conform to all applicable state, federal and local regulations. The contractor shall contact local underground utility companies prior to construction. Temporary fencing, warning tape and other appropriate safety signs shall be provided by the contactor during the installation of the chambers. The contractor shall provide erosion and sediment control measures to protect the stormwater system during all phases of roadway construction. The contractor must contact chamber system's Technical Service Representative at least 30 days prior to system installation for installation requirements. The contractor shall provide a geotextile filter fabric as indicated in the contract documents.

Testing

In place testing shall be performed by a Registered Professional Engineer at the expense of the Contractor. Structural testing shall be performed to certify that the installation meets AASHTO standards for HS-20 loading with 18-inches of minimum cover.

Drop weight impact testing shall be performed prior to installation and conform to the manufacturer's and industry standards specifications.

Two copies of certifications that all testing has been completed along with the results of testing shall be supplied to the Owner for review and approval.

MEASUREMENT AND PAYMENT

Measurement

Leaching galleys shall be measured per number of units installed.

Payment

Payment shall be made at the contract unit price per feet of units complete, in place, and accepted by the Engineer. The contract unit price shall include excavation, backfilling, furnishing and installing basins, *geotextile filter fabric, washed stone*, compaction, and all other materials, equipment, and labor required to install leaching basins as shown on the Drawings, complete in place. Pipe connections shall be paid under Item No. 252.12 12 Inch Corrugated Plastic (Polyethylene) Pipe.

ITEM 252.12 12 IN. CORRUGATED PLASTIC (POLYETHYLENE) PIPE LF

Work under this Item shall conform to the relevant provisions of Section 230 of the Standard Specifications and the following:

This Section covers the furnishings and installation of high-density polyethylene corrugated pipe (PCP) with an integrally formed smooth interior waterway and fittings, as shown on the construction drawings and as specified herein.
This section also covers furnishing, handling, laying, joining and installation of perforated HDPE piping, fittings and appurtenances.
Sizes 4 - 36 inch (N-12) shall have a full circular cross-section, with an outer corrugated pipe wall and an essentially smooth inner wall (waterway). Corrugations for these sizes may be either annular or spiral. Sizes 42 and 48 inch (N-12 HC) shall consist of an essentially smooth waterway braced circumferentially with circular ribs, which are formed simultaneously with an essentially smooth outer wall. All sizes shall conform to the AASHTO classification "Type D" (which describes pipe with a smooth waterway).

Pipe manufactured on this specification shall comply with the requirements for test methods, dimensions, and markings found in AASHTO Designations M252 and M294. Pipe and fittings shall be made from virgin PE compounds, which conform to the requirements of cell class 324420C as defined and described in ASTM D3350.

The minimum parallel plate stiffness values when tested in accordance with ASTM D2412 shall be as follows:

Diameter	Pipe Stiffness
12" (300 mm)	50 psi (340 kN/m^2)

The fittings shall not reduce or impair the overall integrity or function of the pipeline. Fittings may be either molded or fabricated. Common corrugated fittings include in-line joint fittings, such as couplers and reducers, and branch or complimentary assembly fittings such as tees, wyes, and end caps. These fittings may be installed by various methods, such as snap-on, screw-on, bell and spigot, and wrap around. Couplings shall provide sufficient longitudinal strength to preserve pipe alignment and prevent separation at the joints. Only fittings supplied or recommended by the pipe manufacturer shall be used. Where designated on the plans, a neoprene or rubber gasket shall be supplied.

Installation of the pipe specified above shall be in accordance with ASTM Recommended Practice D2321 as covered elsewhere in these specifications.

Field cutting shall be done by the manufacturers recommendations.

Excessive ground water shall require dewatering the trench area. An unstable trench bottom must be stabilized as drenched by the Engineer. In such cases install special foundation and bedding materials in 6 inch layers and compacted. Excavation from 0 to 12 inches below the pipe should be filled with acceptable bedding material and compacted to a minimum 95 percent proctor density. Fill areas of over-excavation beyond 12 inches with processed gravel. Before installing pipe, bring bedding material to grade along the entire length of the pipe. When excavating in silt, clays, and silty clays, provide a uniform, improved trench bottom as directed.

EXECUTION

INSTALLATION

A. Except as modified herein, installation of the PCP pipe shall be in accordance with ASTM D2321.

B. Each pipe length shall be inspected before being laid to verify that it is not cracked. Pipe shall be laid true to line and grade and in such a manner as to form proper connection. Each pipe shall be so laid as to form a close concentric joint with the next adjoining pipe and bring the inverts continuously to the required grade.

C. The pipe shall be supported by compacted crushed stone.

D. The pipe shall not be driven down to grade by striking it with a shovel handle, timber, hammer, or other unyielding object. When each pipe has been properly bedded, enough of the backfill material shall be placed and compacted between the pipe and the sides of the trench to hold the pipe in correct alignment.

E. Before a joint is made, the pipe shall be checked to assure that a close joint with the next adjoining pipe has been maintained and that inverts are matched and conform to the required line and grade.

F. For pipe placed on crushed stone, immediately after the joint is made, the jointing area shall be filled with suitable materials so placed and compacted that the ends of either pipe will not settle under backfill load.

G. No pipe or fitting shall be permanently supported on blocking, or stones.

H. Branches and fittings shall be laid by the Contractor as necessary.

I. All pipe joints shall be made as nearly watertight as practicable. There shall be no visible leakage at the joints and there shall be no sand, silt, clay, or soil of any description entering the pipeline at the joints. Where there is evidence of water or soil entering the pipeline, connecting pipes, or structures, the defects shall be repaired.

J. Care shall be taken to prevent earth, water, and other materials from entering the pipe.

K. All connections made between PCP and pipe of any different material shall be made using a suitable connector.

L. The Contractor shall submit a description of work to be performed in writing to the Engineer for review and approval.

METHOD OF MEASUREMENT

Installation of the drainage pipe will be measured along the axis of the pipe and deducting for the interior diameter of the manholes.

BASIS OF PAYMENT

Payment for the installation of the drainage pipe shall include all work attributed to the laying of the pipe along the alignments indicated on the Drawings including, but not limited to, all labor for cutting and disposing pavement, furnishing and installing (including joining) all pipe, sleeve couplings and fittings, excavation, excavation support system (sheeting and bracing), backfill and new material if required, crushed stone, filter fabric, utility adjustment where they interfere with the proposed drainage system, placing and compacting material for backfill including screened gravel, testing, clean-up, tie-in to existing facilities, protection of existing facilities, encasement and any other items in connection with the pipe for which there is no separate Pay Item but necessary to comply with the plans and specifications.

ITEM 440.1 ROADWAY DUST CONTROL LUMP SUM

The work to be done under this item shall conform to the applicable provisions of Section 440.

Work under this item shall consist of all needed measures (calcium chloride, water, etc.), labor and materials to control dust during the duration of the project. Additional measures shall be taken if directed by the Engineer and Owner. Payment for this item will be at the contract unit price lump sum.

ITEM 482.3 SAWING ASPHALT PAVEMENT LF

Work under this Item shall consist of saw cutting the existing bituminous concrete vertically for the full depth of the pavement with power driven tools to provide a neat, clean edge for joining the new pavement at the limits of work, as shown on the detail sheets and as directed by the Engineer. Ragged, uneven edges will not be accepted.

Prior to the placement of new bituminous concrete, RS-1 emulsion shall be applied to the sawcut by brushing or spraying.

Payment for this Item will be at the contract unit bid price per linear foot complete under Item 482.3 Sawing Asphalt Pavement, which includes the cost of furnishing and applying the emulsion.

ITEM 697. SEDIMENTATION FENCE FEET

The work under this item includes the furnishing, construction, maintenance and removal of a fabric fence for the protection of wetlands and other areas.

Sedimentation (silt fence) shall be constructed along all areas where work will be performed in the vicinity of wetlands or streams, as shown on the plans and as directed by the Engineer. The fencing shall be located as close as possible to the proposed limits of earthwork or disturbed ground to avoid unnecessary impact or disturbance of the adjacent wetlands.

Silt fence posts shall be 1 Inch x 1 Inch x 3 feet wood and shall be spaced at not more than 3 feet intervals. Posts shall be driven vertically such that 12 Inch of length becomes firmly embedded. The silt fence shall be 2 feet in height.

The filter material shall be either 340 grams per square meter burlap, or synthetic filter fabric of propylene, nylon, polyester or ethylene yarn conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VTM-51	75% (min.)
Tensile Strength at 20% (max.) Elongation*	VTM-52	Extra Strength-90 grams/mm (min.) Standard Strength - 50 grams/mm (min.)
Flow Rate	VTM-51	1.2 liters/sq. meter/min. (min.)

*Requirements reduced by 50 percent after six months of installation

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of -18° C to 49° C.

Filter materials shall be cut to length from continuous rolls to minimize fabric joints along the fence.

The filter material shall be stapled to the posts using heavy-duty staples at least 1/2 inch long. Filter material shall be drawn taught between posts, and stapled by a minimum of 4 staples per post. Filter material shall not be stapled to existing trees.

A trench shall be excavated approximately 4 Inch wide and 4 Inch deep along the up slope line of the fence. The filter material shall be extended into the trench, and the trench backfilled with the excavated soils and thoroughly compacted.

Silt fence shall remain in place until the graded areas have become permanently stabilized by vegetative growth. All materials used for filter fence will become the property of the Contractor and shall be removed from the site. All soils disturbed by the removal of the fence shall be raked and seeded to minimize erosion and restore vegetation. Upon project completion and permanent stabilization of slopes the contractor will be responsible for the removal and proper disposal of the silt fence.

Sedimentation (silt) fence, which becomes damaged during construction operations, shall be repaired or replaced immediately at no additional cost to the Owner.

Sedimentation (silt) fence will be measured for payment by the feet along the centerline between end posts, complete in place.

Sedimentation (silt) fence will be paid for at the Contract unit price per feet, which price shall include all labor, material, equipment, and incidental costs required to complete work.

ITEM 765. SEEDING SQUARE YARD

The work to be done under this item shall conform to the applicable provisions of Section 765 of the Standard Specifications and following:

1.01 SCOPE OF WORK

a. Under this Section, the Contractor shall furnish all labor, materials; equipment and transportation required to seed and maintain the lawn areas as shown on the plans and as specified under this Section.

1.02 SAMPLES

a. Submit the following samples in accordance with the provisions of the general conditions:

1. Suitable reusable topsoil or Loam Borrow as directed by the Landscape Architect.

1.03 STANDARDS

a. Soil analysis in accordance with the current "Standards of the Association of Official Agricultural Chemists".

1.04 QUALIFICATIONS

a. Fine grading and installation shall be done under the supervision of a qualified foreman acceptable to the Landscape Architect.

1.05 SUBMITTALS

a. Provide affidavits from manufacturers and/or suppliers where required by these Specifications.

b. Provide watering and fertilizing schedule to Landscape Architect for approval.

PART II - MATERIALS

2.01 LIME

a. Lime shall be standard commercial ground limestone containing at least fifty percent (50%) total oxides (calcium oxide and magnesium oxide) and fifty percent (50%) of the material must pass through a #100 mesh sieve, with ninety-eight percent (98%) passing a #20 mesh sieve.

2.02 FERTILIZER

a. Fertilizer shall be commercial fertilizer, 10-6-4 U.F. Fertilizer mixture containing at least sixty percent (60%) of organic material or type determined by chemical

soil analysis as tested by an approved laboratory. It shall be delivered at the site in the original sealed containers with contents clearly described.

b. All fertilizer shall be uniformly spread by a mechanical spreader at the rate of 15 pound per 1000 square feet. At slopes exceeding twenty-five (25%) in gradient, the fertilizer shall be applied manually in an approved manner.

2.03 SEED

a. The lawn seed blend shall be an Athletic Field Mix made up of the following grasses:

Common Name	Latin Name	Portioned By Weight	Purity	Germination
Rebel II Tall Fescue	Festuca arundinacea	80	97	90
Palmer II Perennial Rye Grass	Lolium perenne	10	98	90
Baron Kentucky Blue Grass	Poa pratensis ‘Baron’	10	85	80

2.4 EROSION SEED

a. The seed for erosion control material shall conform to the requirements of Section 767 and Subsection M6.03.1

2.05 MULCH

a. Mulch material shall be a manufactured product of natural wood cellulose fibers with a non-toxic green marking dye incorporated to insure uniform distribution. Material shall be International Paper Company's "Turfiber"; Weyerhaeuser Company's "Silva-Fiber", or approved equal and clearly packed in original containers, sealed and clearly labeled with brand name and manufacturer. It shall have delivered moisture content of not over twelve percent (12%).

2.06 SUPER PHOSPHATE

a. Super phosphate shall be composed of finely ground phosphate rock as commonly used for agricultural purposes containing not less than eighteen percent (18%) available phosphoric acid.

b. Super phosphate application rate shall be based on laboratory soil analysis test recommendation.

c. At least four (4) days shall lapse after the application of lime and/or fertilizer before hydroseeding shall begin.

2.07 PESTICIDES

a. No pesticide shall be used on-this project.

PART III - EXECUTION

3.01 All areas to be seeded shall be hydromulched in accordance with the following Construction methods:

a. The liming, fertilizing and seeding to be accomplished under this Section shall be done during a period of time to be approved by the Landscape Architect. The Contractor shall notify the Landscape Architect thirty (30) days prior to the time that he intends to begin this work. No seeding shall be permitted prior to approval in writing by the Landscape Architect.

b. After all surfaces to be seeded have been brought to finished grade, the Contractor shall furnish and apply limestone as herein specified.

c. Limestone shall be applied at a rate up to a maximum of 100 pound per 1000 square feet, or as determined by the results of laboratory tests conducted by an approved testing laboratory at the Contractor's expense. A minimum of four (4) sub-samples, taken to the proposed depth of topsoil, shall be taken per acre of area to be limed. These samples shall be placed in a suitable container obtained from the testing laboratory and marked to clearly indicate the acre area from which they were taken.

d. The sample shall be delivered by the Contractor to the testing laboratory for chemical and mechanical analysis. The testing laboratory shall be directed by the Contractor to furnish test results and recommendations for liming and fertilizing to the Landscape Architect for approval.

e. Lime shall be mechanically spread in two applications up to 51 pounds per 1000 square feet, on all areas. The lime shall be distributed uniformly and worked into the top 4-inch minimum of the topsoil and uniformly blended by discing or rototilling.

f. Fertilizer shall be mechanically spread and rototilled into 4-inch depth topsoil and uniformly blended by discing or raking so as to obtain up to a minimum sown fertilizer coverage yield of 16 pound per 1000 square feet. The actual amounts and type of fertilizer applied shall be as determined by the results of laboratory tests conducted above.

g. Seed shall be incorporated with the mulching material so as to obtain a minimum sown coverage of 200 pounds of the specified mix per 1.0 acre (43,560 sq.ft.). Seed substitutions may require rate adjustments as recommended by the seed suppliers, if approved by the Landscape Architect.

h. At areas to be seeded by hydromulching, all stones over 1.0 inch in size or other unsuitable material shall be manually raked out with garden rakes to a 3 inches depth. The Contractor shall remove and dispose of all such excess and unsuitable material of the site or in approved filling areas adjacent to the work. During the

process of raking, the areas shall be graded to achieve finished grades after the compaction which shall be obtained by rolling, dragging, or by an approved method which obtains an equivalent compaction to that produced by a hand roller weighing from 75 to 100 pounds per 1.0 feet of width. All depressions caused by settlement or rolling shall be filled with additional topsoil and regraded and prepared as specified above until it presents a reasonable smooth and even finish at the required finish grade.

i. After the fine grading and preparations for hydromulch seeding are approved by the Landscape Architect, the Contractor shall seed the area indicated, as specified herein. The seed shall be incorporated with mulching materials composed of wood cellulose fibers that will readily disperse in water to form a uniform and homogeneous mixture when agitated.

j. The slurry so formed shall be of such consistency that it can be sprayed upon the prepared soil surfaces from a hydroseed gun or through at least 200 feet of one or 1.5-inch diameter canvas hose. The mulching material shall be used at the rate of 1000 pounds per 1.0 acre (43,560 sq.ft.) on flat surfaces and 1400 pounds per 1.0 acre (43,560 sq.ft) on slopes exceeding four percent (4%), except where erosion control blankets are to be applied.

k On all slopes called for to be blanketed with erosion control blankets, the mulching materials shall be used at a rate of 350 pounds per 1.0 acre (43,650s.f.).

l. Spraying equipment shall consist of a mobile mulching and seeding unit with an approved tank capacity. Unit shall be Bowie "Hydro-Mulcher", Finn "Hydro-Seeder", Reinco "Aquamulcher", or approved equivalent.

3.02 Maintenance of Seeded areas shall be the sole responsibility of the Contractor as described below:

a. The Contractor shall maintain the entire seeded areas until final acceptance at the completion of the contract or for sixty (60) days, whichever is longer. Maintenance shall include watering as specified, weeding, removal of stones which may appear and regular cuttings of the grass no closer than ten (10) days apart. The first cutting shall be accomplished when the grass is from 2 ½” to 3 ½” high. Weekly watering shall provide the seeded areas with the equivalent of 1.0 inch of rainfall per week. If the seeded areas are watered by normal rainfall or the normal watering is inadequate due to weather, the Contractor may at his discretion eliminate or increase respectively, the watering during a given week. However, such action by the Contractor shall in no way waive the Contractor's responsibility or the growth and health of the grass until final acceptance. The Contractor shall furnish all temporary pipe and connections for sprinkling. Water for sprinkling will be furnished by the Owner at a service connection without charge to the Contractor. The Contractor is cautioned to ascertain the locations and suitability of existing water supplies prior to the time of seeding. The Owner accepts no responsibility for the inadequacy or failure of any water control, to furnish the Contractor with necessary water. In the event of a lack of available

water, the Contractor shall furnish all required water at no expense to the Owner. Garden hose and hand sprinkling shall be permitted only in special instances by the Landscape Architect.

b. All bare spots which become apparent as the grass germinates shall be reseeded by the Contractor at his own expense as many times as necessary to secure a good growth and the entire area shall be maintained and cut until all work under this Contract has been completed and accepted. Reseeding may be accomplished by hydromulching or by mechanical means as determined by the area of reseeding to be accomplished.

c. At all areas to be seeded where hydromulching cannot be accomplished, i.e., adjacent to narrow or irregularly shaped areas, perform the work manually and protect the seeded areas with chopped hay, straw, or wood fiber mulch sprinkled to cover the area.

d. The Contractor shall take whatever measures are necessary to protect the grass while it is germinating. These measures shall include furnishing of warning signs, barriers, temporary fence or any other necessary measures of protection.

e. The Contractor shall furnish, erect, and maintain all temporary barriers until final acceptance of the seeded areas by the Owner and shall remove them upon such final acceptance. The barriers shall remain the property of the Contractor at all times.

f. Six (6) weeks after the grass is established, the Contractor shall apply fertilizer to the surface of seeded areas at one-half the rate recommended by initial laboratory tests as indicated herein.

The work described under this item shall be paid for at the contract unit bid price per square yard.

ITEM 767.8 BALES OF HAY FOR EROSION CONTROL EACH

The work under this Item shall conform to the relevant provisions of Sections 7.02 and 767 of the Standard Specifications and the following:

Hay bales shall be held in position by wooden stakes 2 inch by 2 inch by 3 feet (two (2) per bale.

Bales shall be staked at locations as directed by the Engineer. All bales will be staked tight against each other to eliminate any possible openings. The Contractor shall set the bales at a 3 inches embedment into the ground in sensitive areas at the direction of the Engineer.

MAINTENANCE AND REMOVAL

When the build-up of soil and silt behind the baled hay soil erosion check reaches a height of 1 feet, or when in the judgment of the Engineer, the checks are no longer functioning efficiently, the Contractor will remove the accumulated material.

Baled hay used for structure erosion check will be removed when, in the judgment of the Engineer, such checks are no longer necessary or when the project is completed. In no case will hay bales be left in ditches or around drainage structures after all construction is finished.

The ground surface shall be regraded to its original grade after hay bale removal and seeded or mulched, as directed by the Engineer, to restore its original condition.

MEASUREMENT AND PAYMENT

Bales of hay for erosion control will be measured for payment by the actual number of bales satisfactorily furnished and installed in the work. Bales of hay for erosion control will be paid at the contract unit price per each, which price shall include all labor, materials, equipment and incidental costs required to complete the work.

No separate payment will be made for removal of hay bales and restoration of the ground surface, but all costs in connection therewith shall be included in the contract unit price for bales of hay for erosion control.

ITEM 851.2 TRAFFIC SAFETY MANAGEMENT AND CONTROLS FOR CONSTRUCTION OPERATIONS LUMP SUM

The work consists of providing daily lane closures for purposes of safely directing traffic, by approved methods, away from and/or through areas affected by Contractor's operations. The work shall be done in accordance with the approved Traffic Management Plan or as directed by the Engineer. The minimum number of Contractor's personnel required for traffic management will be two. A service truck(s) of sufficient size to carry all the required traffic control devices is included under the payment of this item.

Safety controls for Construction Operations will be paid as a Lump Sum, regardless of the number of times that traffic control devices are positioned, repositioned, or removed. The contract price for Safety Controls for Construction Operations will include full compensation for providing a service truck(s) and personnel, and furnishing, positioning, repositioning and removing traffic control devices as directed by the Engineer.

The work to be done shall conform to the relevant provisions of Section 850 of the Standard Specifications and the following:

During the construction activities, safe vehicular and pedestrian traffic, as well as work operations, must be maintained at all times. The Contractor shall submit a Traffic Management Plan (T.M.P.) showing the proposed signing, detour layout, channelizing devices, barricades, and other safety measures to be utilized, to the Engineer for approval.

Materials shall conform to Sections 828 and 840 except the plywood material shall conform to the following: Plywood sign panels and independent Route Markers shall be fabricated from 5

ply 5/8 inch thick Medium Density Overlaid (MDO) Exterior Type, A-B both sides surface in natural color and the whole conforming with the requirements and tests for the above as set forth in US Product Standard PS-1-74 for Construction and Industrial Plywood. All plywood shall bear the grade trademark of an approved testing agency. The entire sign face shall be reflectorized with reflective sheeting conforming to M9.30.0, Type III, or Type IV, and shall be orange in color.

Background sheeting for the first set of signs on each approach to the work zone shall be of a fluorescent orange color. The minimum spectral radiance factor, in accordance with Section 5.1 of ASTM E991, for the fluorescence shall be as follows:

New:	110%, min.
Weathered:	60%, min.

Payment for Item 851 shall include compensation for removing and/or relocating existing detour signing as shown on the plans or directed by the Owner, Eastham Police Department, or the Engineer.

ITEM 999. TRAFFIC POLICE HR

Z:\MA-Foxboro-Projects\Eastham MA\Salt Pond_Route 6 - 2110473\Specifcation\Specifications\02000 - Special Provisions.doc

ATTACHMENT A

TEST PIT LOGS

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -1	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	37.5' +/-
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 119+40 LT
8	SANDY LOAM
44	BROWN/ORANGE FINE SAND, TRACE OF GRAVEL
72	BROWN/ORANGE SANDY GRAVEL
84	LIGHT BROWN FINE SAND, TRACE OF GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -1

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -2	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	34' +/-
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 122+50 LT
12	SANDY LOAM
82	BROWN/ORANGE FINE SAND, TRACE OF GRAVEL
96	BROWN/ORANGE SANDY GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -2

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -3	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	30.2' +/-
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 125+00 LT
5	SANDY LOAM
17	BROWN SANDY GRAVEL
96	BROWN/ORANGE SANDY GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -3

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -4	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	28.72
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 127+40 RT
5	SANDY LOAM
36	BROWN/ORANGE MEDIUM SAND, SOME GRAVEL
84	LIGHT BROWN FINE SAND

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -4

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -5	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	39.5' +/-
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 135+40 RT
7	GROUND COVER/LOAM
31	DARK BROWN MEDIUM SAND, SOME ORGANICS, ROOTS
67	BROWN COARSE SAND, SOME GRAVEL
91	LIGHT BROWN FINE SAND, TRACE OF GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -5

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -6	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	42.59
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 137+50 LT
9	LOAM
90	BROWN COARSE SAND

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -6

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -7	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	41.8' +/-
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 143+00 LT
10	SANDY LOAM
79	BROWN/ORANGE FINE SANDY GRAVEL
90	LIGHT BROWN FINE SAND

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -7

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -8	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	41.30
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 143+40 RT
7	SANDY LOAM
65	DARK BROWN MEDIUM SANDY GRAVEL
84	BROWN FINE SANDY GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -8

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP -9	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	36.13
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 146+00 RT
9	SANDY LOAM
57	BROWN/ORANGE FINE SANDY GRAVEL
78	LIGHT BROWN FINE SAND

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP -9

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-10	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	24.76
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 149+00 RT
8	SANDY LOAM
84	BROWN MEDIUM SANDY GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-10

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-11	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	22.35'
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 151+00 RT
7	SANDY LOAM
90	BROWN FINE SAND, SOME GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-11

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-12	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	23.64'
OBSERVED BY	J. Peck	DATE	12.14.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 154+40 LT
10	LOAM
42	BROWN FINE SANDY GRAVEL
82	LIGHT BROWN FINE SAND, SOME GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-12

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-13	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	15' +/-
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 156+50 LT
7	SANDY LOAM
84	BROWN MEDIUM TO FINE SAND, SOME GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-13

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-14	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	18.18'
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 159+00 LT
6	GROUND COVER
74	BROWN MEDIUM SAND, SOME GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-14

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-15	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	26.5' +/-
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 162+00 LT
4	SANDY LOAM
50	BROWN MEDIUM TO COARSE SAND, SOME GRAVEL
80	LIGHT BROWN MEDIUM TO COARSE SAND, SOME GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-15

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-16	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	33.43'
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 162+50 RT
4	SANDY LOAM
72	BROWN MEDIUM TO COARSE SAND, SOME GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-16

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-17	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	35.5' +/-
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 164+50 LT
9	SANDY LOAM
78	BROWN MEDIUM TO FINE SAND, SOME GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-17

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-18	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	40' +/-
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 165+00 RT
6	SANDY LOAM
57	BROWN MEDIUM TO COARSE SANDY GRAVEL
78	LIGHT BROWN MEDIUM TO FINE SAND, TRACE OF GRAVEL

NOTES:
No groundwater encountered.
Asphalt encountered 49" below surface. Probably old drive for barracks acccording to contractor.

TEST PIT NUMBER
TP-18

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-19	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	41.5' +/-
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 167+00 RT
9	SANDY LOAM
65	BROWN MEDIUM TO FINE SAND, TRACE OF GRAVEL
78	LIGHT BROWN MEDIUM TO FINE SAND, TRACE OF GRAVEL

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-19

WESTON & SAMPSON ENGINEERS, INC.

#N/A

TEST PIT LOG

PROJECT NAME/NO.	Route 6/Salt Pond			**TEST PIT NUMBER**	
LOCATION	Eastham, MA			TP-20	
CLIENT	Eastham DPW			GROUND SURFACE	
CONTRACTOR	Farrell Electric	FOREMAN:	Luke	ELEVATION	43.5' +/-
OBSERVED BY	J. Peck	DATE	12.16.2011	DEPTH TO GROUNDWATER BELOW	
CHECKED BY		DATE		SURFACE	N/A

DEPTH BELOW GROUND SURFACE (in.)	TEST PIT DIAGRAM AND SOIL DESCRIPTION LOCATED AT APPROX. STA. 167+00 LT
7	SANDY LOAM
40	BROWN FINE SAND, TRACE OF GRAVEL
78	LIGHT BROWN FINE SAND

NOTES:
No groundwater encountered.

TEST PIT NUMBER
TP-20

WESTON & SAMPSON ENGINEERS, INC.

#N/A