

RFP # 371

CONTRACT DOCUMENTS FOR

OPERABLE UNIT 1 (OU1) EXISTING FINAL COVER REPAIR



THE RHODE ISLAND RESOURCE RECOVERY CORPORATION

65 SHUN PIKE

JOHNSTON, RHODE ISLAND 02919

SEPTEMBER 2026

RHODE ISLAND RESOURCE RECOVERY CORPORATION
RFP No. 371
OPERABLE UNIT 1 (OU1) EXISTING FINAL COVER REPAIR

TABLE OF CONTENTS

DIVISION 0 – PROPOSAL AND CONTRACT DOCUMENTS

<u>SECTION</u>	<u>TITLE</u>
00 01 15	Index of Drawings
00 11 13	Advertisement for Request for Proposal
00 21 00	Information for Bidders
00 21 13	Supplementary Instructions to Bidders
00 41 00	Bid Price Forms
00 43 13	Bid Bond
00 45 13	Statement of Bidder's Qualifications
00 45 14	Bidder's References
00 47 00	Bidder's Technical Proposal/Work Plan/Schedule
00 47 13	Proposed Subcontractors
00 52 00	Agreement
00 61 13	Payment Bond
00 61 14	Performance Bond
00 72 00	General Conditions
00 73 00	Supplemental Conditions
00 73 13	Special Conditions
00 91 13	Addenda
00 93 00	Construction Management Forms

DIVISION 1 - GENERAL REQUIREMENTS

<u>SECTION</u>	<u>TITLE</u>
01 00 00	Specification Format
01 10 00	Summary of Work
01 14 26	Grades, Lines, Levels and Quantity Surveys
01 29 00	Measurement and Payment
01 30 00	Administrative Requirements
01 33 00	Submittals
01 35 29	Health and Safety
01 35 43	Environmental Protection
01 41 23	Modifications to Existing Structures, Piping and Equipment
01 42 00	Standard References
01 45 00	Quality Control
01 45 23	Inspection Services
01 45 29	Testing Laboratory Services
01 50 00	Temporary Facilities and Controls
01 60 00	Product Requirements

RHODE ISLAND RESOURCE RECOVERY CORPORATION
RFP No. 371
OPERABLE UNIT 1 (OU1) EXISTING FINAL COVER REPAIR

<u>SECTION</u>	<u>TITLE</u>
01 65 00	Shipment, Protection and Storage
01 70 00	Execution and Closeout Requirements
01 73 33	Restoration of Improvements
01 78 29	As-Built Drawings

DIVISION 2– TECHNICAL SPECIFICATIONS

<u>SECTION</u>	<u>TITLE</u>
31 10 01	Site Preparation
31 10 10	Excavation
31 23 01	Low Hydraulic Conductivity Soil
31 23 05	Base Layer
31 23 23	Vegetative Support Layer
31 25 00	Erosion and Sediment Controls
33 46 01	Composite Drainage Net
33 47 13	Geomembrane Barrier
33 47 14	Geosynthetic Clay Liner
32 92 00	Topsoil and Seed

DIVISION 0
CONTRACT DOCUMENTS

SECTION 00 01 15
INDEX OF DRAWINGS

PART 1--DRAWINGS FOR PROJECT, DEVELOPED SPECIFICALLY FOR THIS CONTRACT.

The following drawings accompany the Specifications and are part thereof and are referred to throughout the Contract Documents as "the Drawings". These drawings are the property of the Rhode Island Resource Recovery Corporation (herein known as RIRRC) and shall not be used for any purpose other than contemplated by this Contract.

<u>DRAWING NO.</u>	<u>TITLE</u>
1	Title Sheet
2	Existing Conditions Plan
3	Proposed Limit of Work
4	Detail Sheet

PART 2--DRAWINGS AND SPECIFICATIONS

The Bidder (herein known as Contractor) shall keep, at the site, a copy of the Drawings and Specifications and shall at all times give RIRRC access thereto. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown or mentioned in both. In case of differences between the Drawings and Specifications, the Specifications shall govern. In case of discrepancy either in the figures in the Drawings, or in the Specifications, the matter shall be promptly submitted to RIRRC and Project Manager, who shall promptly make a determination in writing. Any adjustment by the Contractor without such determination shall be at his/her own risk and expense. RIRRC may furnish from time-to-time such detail drawings and other information as may be considered necessary, unless otherwise provided.

**END OF SECTION **

SECTION 00 11 13

ADVERTISEMENT FOR REQUEST FOR PROPOSAL

REQUEST FOR PROPOSAL

The Rhode Island Resource Recovery Corporation (RIRRC) is issuing a Request for Proposal (RFP) for the following work to be performed at its facility located in the Town of Johnston, RI.

RFP NO. 371

OPERABLE UNIT 1 (OU1) EXISTING FINAL COVER REPAIR

This project will include the repair of approximately 1 acre (45,760 sq. ft.) for the OU1 final cover portion of the landfill, to be completed during the 2026 and 2027 calendar year. The major items to be provided for the OU1 final cover repair project work will include, but are not limited to: erosion and sedimentation controls, site preparation, removal and stockpile of existing topsoil for re-use, installation of a base layer soil, furnish and installation of geosynthetic clay liner, 60-mil LLDPE geomembrane barrier, and composite drainage net, installation of vegetative support soil, re-installation of the topsoil, seed and fertilize, and grading/shaping as needed as well as stormwater diversion as needed for the project.

The Technical Proposal provided by the Contractors should describe the approach given available areas.

The work associated with the OU1 Existing Final Cover Repair must be completed by **June 30, 2027**.

A Mandatory Pre-Bid Meeting will be held for this project on September 21, 2026 at 10:00 A.M., at the Corporation's Administrative Office Building located at 34 Shun Pike, Johnston, RI.

Bids must be received at 34 Shun Pike, Johnston, RI, no later than **Wednesday, October 7, 2026 at 1:00 PM**, at which time a public bid opening will be held. Bids received thereafter will not be considered. Physical bid containers must be sealed and clearly marked with the Contractor's name and with the phrase "RFP No. 371 Enclosed – Operable Unit 1 (OU1) Existing Final Cover Repair." It is expected that project award will occur within 60 calendar days of the public bid opening, but may extend as long as 120 calendar days from bid opening date.

****END OF SECTION****

SECTION 00 21 00
NUMERICAL ORDER
INDEX TO INFORMATION FOR BIDDERS

<u>ARTICLE</u>	<u>TITLE</u>	<u>PAGE NO.</u>
1.	RECEIPT AND OPENING OF BIDS	2
2.	QUESTIONS	2
3.	PREPARATION OF BID	3
4.	MODIFICATIONS	4
5.	WITHDRAWAL OF BIDS	4
6.	METHOD OF BIDDING	5
7.	QUALIFICATIONS OF CONTRACTORS	5
8.	BID SECURITY	5
9.	LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT	6
10.	TIME OF COMPLETION AND LIQUIDATED DAMAGES	6
11.	CONDITIONS OF WORK	6
12.	ADDENDA AND INTERPRETATIONS	7
13.	SECURITY FOR FAITHFUL PERFORMANCE	7
14.	POWER OF ATTORNEY	8
15.	EMPHASIS OF SPECIAL REQUIREMENTS	8
16.	LAWS AND REGULATIONS	8
17.	MINORITY AND WOMEN BUSINESS ENTERPRISE REQUIREMENTS	8
18.	METHOD OF AWARD – EVALUATION OF CONTRACTORS	9
19.	OBLIGATIONS OF CONTRACTORS	10
20.	ITEMS NOT LISTED IN THE BID	10
21.	BALANCED BIDDING	10
22.	PRICES	10
23.	UNCERTAINTY OF QUANTITIES	11
24.	AGREEMENT	11
25.	WORK ON STATE, MUNICIPAL, AND PRIVATE PROPERTY	12
26.	PAYMENT FOR DRAWINGS AND DOCUMENTS	12
27.	CORRECTIONS	12
28.	PERSONAL EXAMINATION	12
29.	PRECONSTRUCTION CONFERENCE	12
30.	WAGES	12
31.	RHODE ISLAND SALES TAX	16
32.	CONTRACTOR'S DISCLOSURE	16
33.	STEEL PRODUCTS PROCUREMENT ACT	16
34.	FLOW DIVERSION	17
35.	"DIG SAFE" LAW	17
36.	NON-INTERFERENCE WITH ON- GOING PROJECTS	17
37.	ELECTRICAL WORK	17
38.	PROHIBITED CONTACTS	18
39.	NOTICE TO CONTRACTORS	18
40.	RIRRC'S RIGHTS	18

SECTION 00 21 00
INFORMATION FOR BIDDERS

ARTICLE 1--RECEIPT AND OPENING OF BIDS:

- A. The Rhode Island Resource Recovery Corporation (herein known as RIRRC) invites bids on the forms attached hereto, all blanks of which must be appropriately filled in. Bids will be received by the RIRRC at its office at 34 Shun Pike, Johnston, RI 02919 on or before **Wednesday, October 7, 2026, at 1:00 PM**, to the attention of Purchasing, at which time they will be publicly opened and read aloud. The physical envelopes containing the Bids must be sealed, marked clearly with the Contractor's name, and designated as follows: **“RFP No. 371 Enclosed – Operable Unit 1 (OU1) Existing Final Cover Repair.”**
- B. **Contractors are to provide three (3) copies of their Bid.** In accordance with RIGL §37-2-18(b)(j), the Contractor must also include a clearly identified **“public copy”** that will be made available for public inspection upon the opening of the bids. It is the responsibility of the Contractor to clearly mark confidential content and remove the content from the **public copy**. Failure to provide a **"public copy"** could result in disqualification.

Bids are to include the completed forms located within the Bid Document, specifically Sections 00 41 43 through Section 00 43 36, and not the entire Specification book. The following items constitute a complete bid:

Item	Description	Section
1.	Bid Price Form	00 41 00
2.	Bid Security	00 43 13 / 00 21 10 Article 8
3.	Statement of Bidder's Qualifications	00 45 13
4.	Bidder's References	00 45 14
5.	Bidder's Technical Proposal/ Work Plan/Schedule	00 47 00
6.	Proposed Subcontractors -ODEO TABLE	00 47 13

- C. The RIRRC may not consider any Bid that is not prepared and submitted in accordance with the provisions hereof and may waive any formalities or reject any and all Bids. Any Bid may be withdrawn prior to the scheduled time and date for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be considered. The RIRRC may modify or amend technical specifications for this Project at any time prior to the opening of the Bids.

ARTICLE 2-- QUESTIONS:

Any questions or interpretation requests must be submitted in writing and directed to:

Purchasing
Rhode Island Resource Recovery Corporation
34 Shun Pike
Johnston, RI 02919

Written questions may be transmitted by e-mail (purchasing@rirrc.org), or by fax (401-946-5174); however, the RIRRC will not be responsible for information that is not received, and it is the Contractor's responsibility to confirm RIRRC's receipt of the questions. Please note that questions will not be answered over the telephone.

NO QUESTIONS WILL BE ACCEPTED AFTER 10:00 AM on Tuesday, September 29, 2026.

If substantive questions are received that, in RIRRC's opinion, require a modification or clarification of the RFP, the resulting modification or clarification will be provided in the form of an Addendum that will be forwarded to all prospective Contractors in advance of the submittal deadline.

ARTICLE 3--PREPARATION OF BID:

- A. Each Bid must be submitted on the prescribed form, accompanied by a Bid Bond and any other requested information. All blank spaces for Bid prices must be filled in, in ink or typewritten, using numerical figures, unless otherwise requested. Should both written words and numerical figures be given, the written words shall apply in the event of conflict. All Bids shall be prepared in conformity with, and based upon and submitted subject to, all requirements of the Specifications and Drawings, together with all addenda thereto.
- B. The Contractor shall not alter the original Bid Form section page numbers. If it becomes necessary to add pages at other than the end of the section, a suffix such as a, b, c, etc., shall be added to the original number to designate the added page number. Pages added at the end of the section shall be numbered sequentially by continuation of originally established numbering. If the Contractor finds it necessary to reproduce any of the Bid Form pages, methods of reproduction shall not appreciably reduce or enlarge the reproduced pages.
- C. EXCEPTIONS. If the Contractor thinks exceptions are absolutely necessary, the Contractor shall list in the space provided on the Bid Form all exceptions or conflicts and cause/reason between his/her Bid and the Contract Documents. If more space is required for this listing, additional pages may be added. If the Contractor takes no exceptions, he/she shall write "None" in the space provided. Bids that do not comply with this requirement will be considered irregular and may be rejected at the discretion of the RIRRC. In case of conflicts not stated as directed, the requirements of the Drawings, Specifications and Contract Documents shall govern.

INSTRUCTIONS FOR ANY EXCEPTIONS. If the Contractor takes exception, then all such exceptions shall be specific in nature and carefully referenced to the applicable page number, article number, and article title of the Contract Documents. If the Contractor proposes deletion of language and substitution of revised language, then such deletion and

substitution shall be carefully presented by typing complete paragraphs or articles of the original language and incorporating the substitute language. Identify proposed deletions by strike-through and proposed substitute language by underlining. For example: "~~Contractor~~, RIRRC shall be responsible for....." Exceptions that are general, that make reference to the Contractor's descriptive information as a whole, will not be accepted.

Bids that do not comply with this requirement for the presentation of exceptions will be considered irregular and may be rejected at the discretion of the RIRRC.

If a Bid includes express or implied exceptions that are not listed as required, the requirements of the documents shall govern. The Contractor shall not alter any part of the Contract Documents in any way, except by stating his/her exceptions.

- D. Each Bid must be submitted in a sealed envelope bearing the name of the Contractor, the address, and the name of the Project for which the Bid is submitted. The envelope shall be clearly labeled "BID DOCUMENTS" so as to guard against opening prior to the time set therefore. No blame shall be attached to any agent of the RIRRC for the opening of any Bid not so marked.
- E. The Contractor is advised specifically that any person, firm, or other party to whom Contractor proposes to award a subcontract under this Agreement must be acceptable to the RIRRC. Approval of any subcontract award will not be given by the RIRRC unless and until the proposed Subcontractor has submitted evidence showing that it has fully complied with any requirements to which it is subject.

ARTICLE 4-- MODIFICATIONS:

Any Contractor may modify its Bid by mail, email or facsimile communication at any time prior to the scheduled closing time for receipt of Bids provided that such communication is received by the RIRRC prior to the closing time for Bids and, provided further, that the RIRRC is satisfied that a written confirmation of the modification over the signature of the Contractor was received or postmarked prior to the closing time. With respect to modifications submitted by email or facsimile, the time clock on the RIRRC computer system or fax machine shall determine the time of receipt. A facsimile or email communication should not reveal the Bid price but must provide the addition or subtraction, or other modifications to the sealed Bid Price, so that the final prices or items will not be known by the RIRRC until the sealed Bid is opened.

ARTICLE 5--WITHDRAWAL OF BIDS:

Bids may be withdrawn personally or by written, email or facsimile request dispatched by the Contractor in time for delivery to the RIRRC in the normal course of business prior to the time fixed for Bid submission; provided that written, facsimile or email withdrawal over the signature of the Contractor is received by the RIRRC prior to the closing time. Negligence on the part of the Contractor in preparing its Bid confers no right of withdrawal or modification of its Bid after such Bid has been received as noted in Article 1 of this section.

ARTICLE 6--METHOD OF BIDDING:

The RIRRC is seeking Technical Proposals and Bid Prices for the complete construction of the Project, together with all related incidental and appurtenant work as described in these Specifications and as shown on the Drawings. The RIRRC may at its own discretion limit or expand the scope of the Project prior to the Bid deadline.

ARTICLE 7--QUALIFICATIONS OF CONTRACTORS:

The RIRRC may make such investigations as it deems necessary to determine the ability of the Contractors to perform the Work, and each Contractor shall furnish to RIRRC all such information and data for this purpose as RIRRC may request. RIRRC reserves the right to reject any Bid if the evidence submitted by, or its investigation of, such Contractor fails to satisfy the RIRRC that such Contractor in RIRRC's determination is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein within the time stated and is otherwise a Responsive and Responsible Contractor (as defined in Article 18 below). A Contractor will be disqualified if more than one Bid is received from an individual, firm, partnership, corporation or association, under the same or different names and such Bids will not be considered. All Contractors and Subcontractors must be licensed and authorized to do business in the State of Rhode Island.

To qualify, Contractor will be required to provide all items as described in Section 00 45 13, without exception. This information must be furnished by each Contractor, failure to provide this information may be cause for disqualification of the bid.

Prospective Contractors shall also provide a statement of qualifications package that includes the company profile information, company financial information including latest audited financial statements; description of recent and relevant project experience; and references from projects of similar character. Failure to provide the above described information can be cause for disqualification of the bid.

ARTICLE 8--BID SECURITY:

(To be made payable to the Rhode Island Resource Recovery Corporation)

Each Bid must be accompanied by a certified check, cashier's check, money order, or a Bid Bond prepared on the form of Bid Bond (Section 00 43 13) attached hereto, duly executed by the Contractor as principal and having as surety thereon a Surety company, in the amount of five (5) percent of the Bid Price. Surety companies executing Bond must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island. The Bid Price will be taken as the total price to perform all of the Bid Items listed in Section 00 41 00 – Bid Price Forms. Any Contractor withdrawing its Bid after submittal or failing to enter into a contract with the RIRRC no later than one hundred twenty (120) calendar days after the Bid opening date shall forfeit its Bid Security to the RIRRC. The Bid Security will be returned to all but the successful Contractor within a reasonable time following approval of Contract award. The Bid Security of the successful Contractor will be returned promptly after the RIRRC and the successful Contractor have executed the Contract. Failure to provide Bid Security will result in an invalid response. Such response will not be considered for award.

ARTICLE 9--LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT:

The successful Contractor, upon its failure or refusal to execute and deliver the Agreement and Performance and Payment Bonds required within 10 days after Contractor has received notice of the acceptance of its Bid, shall forfeit to the RIRRC, as liquidated damages for such failure or refusal, the bid security.

ARTICLE 10--TIME OF COMPLETION AND LIQUIDATED DAMAGES:

Contractor must agree to commence work on or before a date to be specified in a written "Notice to Proceed" issued by the RIRRC, and to fully complete all work associated with each phase by the respective deadlines, as described in these documents and the contract drawings. This project, in its entirety, shall be fully completed by the date specified in Section 00 11 13.

Contractor also must agree to pay as liquidated damages, and not as a penalty, the sum of \$5,000.00 per day for each consecutive calendar day thereafter that the Project is not deemed finally completed, as hereinafter provided in the General Conditions. The RIRRC reserves the right to set off the liquidated damages against the contract price.

The successful Contractor will be permitted to work, and should base its Bid on work hours as specified in Section 00 73 00 – Article 10. No work is to be performed outside of the hours specified without the specific consent of RIRRC.

ARTICLE 11--CONDITIONS OF WORK:

Contractors are hereby informed of the following:

1. Contractor shall be responsible for furnishing all materials that are not furnished by the RIRRC but are required for the satisfactory completion of the Work.

In addition, each Contractor must inform itself fully of the conditions relating to the construction and labor under which the Work is now or will be performed; failure to do so will not relieve the successful Contractor of its obligation to furnish all materials and all labor necessary to carry out the provisions of the Contract Documents and to complete the contemplated Work for the consideration set forth in its Bid. Insofar as possible, Contractor, in the carrying out of its work, shall employ such methods or means as will not cause any interruption of or interference with: The operation of existing facilities; traffic; use of existing facility and utilities; locations of existing utilities and structures affecting the work or other similar conditions at the site; character of equipment and facilities needed preliminary to and during execution of the Work; requirements of owners and controlling authorities having jurisdiction over the various lands, existing structures, facilities, and utilities; and all other conditions affecting the Work to be done, and the labor and materials needed; and it shall make its Bid in sole reliance thereon, and shall not, at any time after submission of a Bid, assert that there was any misunderstanding in regard to the nature or amount of the Work to be done.

Additional conditions and requirements are presented in the Special Conditions of the Contract Documents, Section 00 73 13.

ARTICLE 12--ADDENDA AND INTERPRETATIONS:

No interpretation of the meaning of the Drawings, Specifications, or other pre-bid documents will be made to any Contractor orally, and no reliance shall be placed on any oral statement that is made on these matters. Every request for an interpretation shall be made in writing, addressed to Rhode Island Resource Recovery Corporation, 34 Shun Pike, Johnston, RI 02919 ATTN: Purchasing. To be given consideration, each request must be received by the deadline specified in Article 2. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Specifications, which, if issued, will be distributed to all prospective Contractors (at the respective contact information furnished for such purposes), not later than five (5) days prior to the date fixed for the submission of Bids. Failure of any Contractor to receive any such addenda or interpretations shall not relieve such Contractor from any obligation under its Bid as submitted. All addenda so issued shall become part of the Contract Documents and must be acknowledged by the Contractors on the submitted Bid Price Form – Section 00 41 00.

ARTICLE 13--SECURITY FOR FAITHFUL PERFORMANCE:

Simultaneously with the delivery of the executed contract (the "Contract"), the Contractor shall furnish Performance and Payment Bond(s), in an amount specified in the General Conditions, as security for the faithful performance of its Contract, and for the payment of all persons performing labor in the Project under this Agreement, and furnishing materials in connection therewith. Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island. The cost of such Bonds shall be paid by the Contractor and incorporated into the Bid Pricing offered.

ARTICLE 14--POWER OF ATTORNEY:

Attorneys-in-fact who sign Bid Bonds or Contract Bonds must file with each Bond a certified and effectively dated copy of their power of attorney.

ARTICLE 15—EMPHASIS OF SPECIAL REQUIREMENTS:

Without limiting the Contractor's responsibility to thoroughly familiarize itself with all of the Contract Documents, Plans, and Specifications, and all other obligations of this procurement, attention is called particularly to those parts of the Contract Documents and Specifications that deal with the following:

- a. Insurance requirements – Section 00 72 00, Article 5.
- b. Wage rates – Article 30.
- c. Interpretation of Drawings and Specifications – Article 12.
- d. Safety and health regulations – Section 00 73 13.

- e. Equal Employment Opportunity – Section 00 21 13 Part 21.
- f. Minority and Women Business Enterprises - Article 17.
- g. Out-of-State Corporations – Section 00 21 13 Part 20.

ARTICLE 16--LAWS AND REGULATIONS:

The Contractor's attention is directed to the fact that all applicable Federal and State laws, municipal ordinances, and rules and regulations of authorities having jurisdiction over construction of the Project, shall apply to the Agreement throughout, and are hereby incorporated in this Agreement by reference and that the Contract shall be governed by the laws of the State of Rhode Island.

ARTICLE 17--MINORITY AND WOMEN BUSINESS ENTERPRISE REQUIREMENTS:

The Contractor is required to seek minority and women business enterprise participation in the amounts required by R.I. Gen. Laws 37-14.1-1 and 37-2.2 and applicable regulations 150-RICR-90-10-1. Failure to submit the ISBE participation rate in a timely manner shall receive (0) participation points. ISBE participation is required to be submitted with the cost proposal in a sealed envelope.

ARTICLE 18--METHOD OF AWARD – EVALUATIONS OF CONTRACTORS:

Bids will be evaluated by RIRRC staff based upon the contents of the Contractor's package received in accordance with this RFP, with only those clarifications or corrections which may be permitted by the RIRRC's procurement rules. Staff recommendations will be based on a complete review of the qualified Contractors and an objective scoring system consisting of 60 points price and 40 points qualifications and up to 6 points for MBE participation. Staff recommendation for award will be subject to approval by the RIRRC's Executive Director and/or the Board of Commissioners.

The award shall be made to the lowest evaluated bid price satisfying the RIRRC's criteria and shall be made in accordance with the RIRRC's procurement rules and RI Law.

- A "Responsive Contractor" is a Contractor who has submitted a Bid that conforms in all material respects to the RFP and has provided sufficient information relative to clarifications or corrections requested by RIRRC.
- A "Responsible Contractor" shall mean a qualified Contractor who has the capability in all respects, including financial capacity and prior relevant experience, to fully perform the contract requirements as described, and the integrity and reliability that will assure good faith performance.

It is of utmost importance that Contractors demonstrate that they possess the capability, background, resources and experience to complete this Project in addition to proposing a competitive price for the Work, as this will be part of the "Responsible Contractor" evaluation. To aid in this determination, Contractors must: complete the provided form - STATEMENT OF CONTRACTOR'S QUALIFICATIONS (SECTION 00 45 13); and provide written project description of specific project experience including all of the data requested in SECTION 00 45 13,

Part 2, and any other additional information required by the RIRRC during the evaluation of the Bids. Each Contractor shall submit complete and definitive information on his/her offering in sufficient detail to permit a complete technical analysis of the Bid.

Awards will not be made at the bid opening. Awards will be made within one hundred twenty (120) days of the bid opening unless otherwise provided for in this RFP. All Contractors will be notified of the award in writing as soon as the recommendation for the award has been approved. Bids are considered to be irreversible and may not be withdrawn during this period without the written request of the Contractor and the express written permission of the RIRRC.

All Bids shall become the property of the RIRRC and will not be returned except as otherwise provided. As the property of the RIRRC, the Bids will be subject to public review. If any proprietary information is contained in or attached to the Bid, it must be clearly identified for the RIRRC to ensure protection of such information. Please refer to Article 1, Item B as it relates to a “public copy”.

ARTICLE 19--OBLIGATIONS OF CONTRACTOR:

It shall be the responsibility of the Contractor to inspect, as needed, the site prior to submitting a Bid for this project. Failure of Contractor to visually inspect the Project site, or conduct such testing as it may deem necessary prior to submitting its Bid, shall not relieve Contractor of completing the Project in accordance with the Contract Documents at the cost figures submitted by Contractor. Any site visit or investigation must be scheduled with RIRRC with a minimum notice of 24 hours.

At the time of the opening of Bids, each Contractor will be presumed to have inspected the site and to have read and to be thoroughly familiar with the Drawings, Specifications and Contract Documents (including all issued addenda). The failure or omission of any Contractor to examine any form, instrument or document shall in no way relieve any Contractor from any obligation with respect to its Bid. Reasonable evidence that any Contractor has an ownership interest (direct or indirect) in more than one Contractor submitting a Bid for the Work will cause the rejection of all such Bids. Any or all Bids will be rejected if it appears to the RIRRC that collusion exists among any Contractors, and all participants in such collusion will thereafter be barred from submitting future Bids or Bids for all or part of the same work. Each Contractor shall immediately inform the RIRRC of any discrepancies or omissions in the Contract Documents.

ARTICLE 20--ITEMS NOT LISTED IN THE BID:

The Bid prices listed in the Schedule of Bid Items (SECTION 00 41 00 – BID PRICE FORMS) are intended to cover all items of work to be done and materials and work to be furnished to fully complete the Work in accordance with the Contract Documents, without exclusions or exceptions, unless specifically noted. Appurtenant items of work shown on the Drawings, specified or required, and parts of the Work, materials, and equipment not specifically shown or specified, yet needed to complete the Work, shall be provided, and shall be considered as included in the Bid Prices. It shall be the responsibility of the Contractor to verify any missing or incomplete data, prior to submission of a Bid.

ARTICLE 21--BALANCED BIDDING:

Bids should be made with reasonable relation to the probable cost of doing the Work included in such items. The RIRRC reserves the right to reject, in its entirety, at its sole discretion, any Bid on which an item or items thereof are, in its sole discretion, unbalanced in such a way as to affect or to be liable to affect adversely any interests of the RIRRC. The attention of the Contractor is called to the fact that unbalancing of Bids may adversely affect the Contractor if certain portions of the Work are increased or decreased as provided in the Contract Documents.

ARTICLE 22--PRICES:

A Contractor shall state the proposed price for the Work by which the Bids will be compared. This price is to cover all expenses incidental to the completion of the Work, including the costs of all bonds and insurances and all overhead and profit, in full conformity with the Contract, Specifications, and Drawings, without exclusions or exceptions. Bids may be rejected if they do not contain a unit price or a lump sum as indicated for each of the applicable items enumerated in the Schedule of Bid Items (SECTION 00 41 00 – BID PRICE FORMS).

ARTICLE 23--UNCERTAINTY OF QUANTITIES:

- a. The quantities listed in the Schedule of Bid Items are approximate and not guaranteed. The RIRRC does not expressly or by implication represent that the actual amounts of work will even approximately correspond therewith, and calls particular attention to the uncertainty in the quantities of the Work involved which cannot be predicted in advance. The Work under certain items may be materially greater or less than those given in the Bid to complete the Work contemplated in the Contract. Attention is particularly called to the fact that the quantity of work to be done under some Bid items may be largely dependent on subsurface and ground conditions encountered and, therefore, the quantities of work to be done under such items may vary substantially from the estimated quantities or may even be omitted.
- b. Under the Contract, and as described in Section 00 72 00 - General Conditions, the RIRRC reserves the right to increase or decrease the approximate quantities for, or to omit entirely, any of the items listed in the Bid.
- c. Only such quantities of the respective items of work actually performed and accepted will be paid for.
- d. Major and Minor Contract Items: Any item having an original value in excess of 5 percent of the original Contract amount shall be considered to be a “Major Item,” unless otherwise identified in Section 01 29 00. All other original Contract items shall be considered “Minor Items.” In addition, any Minor Item which increases by 100 percent will be considered a Major Item. The revised quantity will then be considered the original Contract quantity for purposes of determining a Major Item of work under Section 00 72 00 – Article 10.11 Significant Changes in the Character of Work.

ARTICLE 24--AGREEMENT:

An Agreement in the form set forth hereinafter will be required to be executed by the successful Contractor and the RIRRC. The attention of all Contractors, therefore, is called to the form of said proposed Contract and the provisions thereof. (See SECTION 00 52 00 – AGREEMENT.)

Multi-year Contracts. This Agreement is subject in all respects to the provisions of RIGL § 37-2-33, which provisions are incorporated by this Agreement.

ARTICLE 25--WORK ON STATE, MUNICIPAL, AND PRIVATE PROPERTY:

Particular attention is hereby directed to the fact that portions of the Work included under this Contract may be done within the limits of properties that are State-owned, municipally owned, or privately owned. The Contractor shall be responsible for coordinating the prosecution of the Work of this Contract with the property owner and for providing the Work in accordance with any additional requirements as specified herein under "SPECIAL CONDITIONS."

ARTICLE 26--PAYMENT FOR DRAWINGS & DOCUMENTS:

See SECTION 00 11 13 - ADVERTISEMENT FOR BIDS.

ARTICLE 27--CORRECTIONS:

Erasures or other changes in the Bid must be explained or noted over the signature of the Contractor.

ARTICLE 28--PERSONAL EXAMINATION:

Contractors are required to submit their Bids upon the following express conditions which shall apply to and become a part of every Bid received: Contractors must satisfy themselves by personal examination of the site of the proposed Work. This shall be done by a complete review of the data available and by such other means as they may prefer as to the actual condition, requirements, and limits of the proposed Work, and as to the accuracy of information and statements herein contained. The submission of any Bid will be accepted by the RIRRC as satisfactory proof that the Contractor has satisfied itself in these respects. The Contractor shall not, at any time after the submission of a Bid, dispute or complain of any statements and information contained herein, nor assert that there was any misunderstanding in regard to the nature or amount of work to be done.

ARTICLE 29--PRECONSTRUCTION CONFERENCE:

The Contractor shall attend a preconstruction conference scheduled by the RIRRC after award of the Contract, but prior to the actual commencement of the Work.

ARTICLE 30--WAGES:

Each Contractor should submit its Bid based upon payment of applicable RI Wage Rates in accordance with Title 37, Chapter 13, of the Rhode Island General Laws, as provided by the Director of Labor and Training at this [website](#), which general wage information is hereby incorporated into this bid by reference. The RIRRC requires the Contractor's and subcontractor's

certified payroll documentation so as to verify compliance with this provision. Certified payroll documentation shall be supplied with and corresponding to any invoices remitted. Payments to the Contractor shall be withheld until prevailing wage documentation is received.

These forms may be found at: www.dlt.ri.gov/pw/pwFormsPubs.htm NOTE: If the Contractor does not submit their Bid with applicable RI Wage Rates and is awarded the Contract, then they shall be required to indemnify and hold the RIRRC harmless from any resulting legal actions.

The successful Contractor shall pay all employees employed directly upon the site of the work pursuant to RIGL section 37-13-7.

In the event the Director of Labor and Training finds that an employee is not being paid pursuant to the rate and wages required by the contract, then in that event, the RIRRC may terminate the contract and proceed with the work and prosecute the work to completion on its own behalf.

The Contractor shall adhere to the provisions of RIGL § 37-13-5, § 37-13-6, and § 37-13-7, which reads as follows:

§ 37-13-5. Payment for trucking or materials furnished — Withholding of sums due.

A Contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the Contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the Contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the Contractor or subcontractor, the equivalent amount of such sums certified by a trucker or materialman creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

§ 37-13-6 Ascertainment of prevailing rate of wages and other payments – Specification of rate in call for bids and in contracts. – Before awarding any contract for public works to be done, the proper authority shall ascertain from the director of labor and training the general prevailing rate of the regular, holiday, and overtime wages paid and the general prevailing payments on behalf of employees only, to lawful welfare, pension, vacation, apprentice training, and educational funds (payments to the funds must constitute an ordinary business expense deduction for federal income tax purposes by Contractors) in the city, town, village, or other appropriate political subdivision of the state in which the work is to be performed, for each craft, mechanic, teamster, laborer, or type of worker needed to execute the contract for the public works. The proper authority shall also specify in the call for bids for the contract and in the contract itself the general prevailing rate of the regular, holiday, and overtime wages paid and the payments on behalf of employees only, to the welfare, pension, vacation, apprentice training, and educational funds existing in the locality for each craft, mechanic, teamster, laborer, or type of worker needed to execute the contract or work.

§ 37-13-7. Specification in contract of amount and frequency of payment of wages.

(a) Every call for bids for every contract in excess of one thousand dollars (\$1,000), to which the state of Rhode Island or any political subdivision thereof or any public agency or quasi-public agency is a party, for the transportation of public and private school pupils pursuant to §§ 16-21-1 and 16-21.1-8, or for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, or any public agency or quasi-public agency and that requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the Contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships that may be alleged to exist between the Contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the Contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the Contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the Contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the Contractor, subcontractors, or their agents.

(b) The terms “wages,” “scale of wages,” “wage rates,” “minimum wages,” and “prevailing wages” shall include:

- (1) The basic hourly rate of pay; and
- (2) The amount of:

- (i) The rate of contribution made by a Contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and
- (ii) The rate of costs to the Contractor, subcontractor, vendor, or provider that may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program that was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the Contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits; provided, that the obligation of a Contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of

any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).

(c) The term “employees,” as used in this section, shall include:

(1) Employees of Contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b); and

(2) Persons employed by a provider contracted for the purpose of transporting public and private school pupils pursuant to §§ 16-21-1 and 16-21.1-8 shall be subject to the provisions of subsections (a) and (b) of this section. For the purposes of this subsection the term employee includes school bus drivers, aides, and monitors who are directly providing transportation services; the term employee does not include mechanics, dispatchers, or other personnel employed by the Contractor whose duties are normally performed at a fixed location.

(d) The terms “public agency” and “quasi-public agency” shall include, but not be limited to: the Rhode Island industrial recreational building authority, the Rhode Island commerce corporation, the Rhode Island airport corporation, the Rhode Island industrial facilities corporation, the Rhode Island refunding bond authority, the Rhode Island housing and mortgage finance corporation, the Rhode Island resource recovery corporation, the Rhode Island public transit authority, the Rhode Island student loan authority, the water resources board corporate, the Rhode Island health and education building corporation, the Rhode Island turnpike and bridge authority, the Narragansett Bay water quality management district commission, the Rhode Island telecommunications authority, the convention center authority, the council on postsecondary education, the council on elementary and secondary education, the capital center commission, the housing resources commission, the Quonset Point-Davisville management corporation, the Rhode Island children’s crusade for higher education, the Rhode Island depositors economic protection corporation, the Rhode Island lottery commission, the Rhode Island partnership for science and technology, the Rhode Island public building authority, and the Rhode Island underground storage tank board.

For information relating to Prevailing Wage Rules, follow this [link](http://www.dlt.ri.gov/wrs/prevailingwage/): <http://www.dlt.ri.gov/wrs/prevailingwage/>.

ARTICLE 31--RHODE ISLAND SALES TAX:

Pursuant to the Rhode Island Sales and Use Tax Act, the RIRRC is exempt from the payment of sales tax for purchase of materials and supplies used to conduct its business. Contractors are requested to submit bids on the basis that no Sales Tax will be imposed on purchases of materials and supplies used in the Work.

An exemption certificate, applying to materials purchased for and actually incorporated in the Work, may be obtained by the successful Contractor from the RIRRC.

ARTICLE 32—CONTRACTOR’S DISCLOSURE:

For the purposes of this Article only, the word Contractor shall be defined as any person, firm or corporation that has submitted or intends to submit a Bid for the Work. The submission of an actual Bid by any person, firm, or corporation, shall constitute acknowledgment that the Contractor had formed the intent to submit a Bid at least three calendar days prior to the Bid submission date. A Contractor (hereinafter called Contractor A) shall give written notice of its status as Contractor to any other Contractor (hereinafter called Contractor B) if such Contractor B:

1. is known to Contractor A, or identifies itself to Contractor A as a Contractor for the Work; and
2. requests or has requested (for the purpose of preparing its Bid) a bid price from Contractor A for Contractor A's services as a Subcontractor or as a major supplier.

For the purposes of this Article, Contractor A would be a major supplier if it proposes to provide for Work, equipment or materials whose cost would be in excess of 20% of its own (Contractor A's) total Contract Bid. Whenever possible, notice under this Article shall be given concurrently with any bid price submitted. In all cases, this notice shall be given at least three calendar days prior to the actual opening of Bids (or at the time of the initial request for a bid price, if later). If, having received notice under this Article, Contractor B submits a Bid based in whole or in part on the bid price of that other Contractor (Contractor A) who gives such notice, Contractor B thereby waives any objection to a subsequent contract award that is based on the adequacy of Contractor A's bid price or on Contractor A's status as a Contractor.

ARTICLE 33--STEEL PRODUCTS PROCUREMENT ACT:

The Contractor shall comply with the provisions of R.I. Gen. Laws § 37-2.1-3 et seq. concerning the purchasing of domestic steel.

ARTICLE 34--FLOW DIVERSION

The Contractor shall take precautions necessary to divert, and not interfere or stop, flow within existing stream/storm channels where Work as part of this project may affect the function of such channels. Adequate controls and methods shall be utilized to prevent erosion and sedimentation as indicated within these specifications, as shown on the drawings and as approved by the RIRRC.

The Contractor shall comply with all stormwater regulations and RIRRC’s active permits. Any violations, non-compliance, and/or fines that may be associated with or as a result of the area of work of the Contractor, shall be the sole responsibility of the Contractor.

ARTICLE 35--"DIG SAFE" LAW:

The Contractor shall take precautions against damaging of paving, utilities, or private properties and promptly shall repair, at its own expense, any damage to such paving, utilities or private property to the satisfaction of the RIRRC or his representative. In this regard, the Contractor will be required to show written evidence that it has contacted the various utility companies with service in the area in

accordance with Title 39 of the General Laws of the State of Rhode Island entitled Public Utilities and Carriers, stating the name of the individual contacted and locations of any potential conflicts with the indicated work program, and DIG SAFE CALL CENTER at 1-888-344-7233. The requirements include the filling of all drill holes, patching pavement, and the reseeding of any areas where grass is damaged. Any abutting property which is damaged as the result of the Contractor's operations shall be repaired at the Contractor's expense to the satisfaction of the RIRRC or his representative.

ARTICLE 36--NON-INTERFERENCE WITH ONGOING PROJECTS:

The Contractor is aware of the following projects and their locations and shall perform all Work without interference therewith:

1. Active landfill operations.
2. RIRRC site maintenance and repair activities
3. Leachate collection system maintenance and repairs
4. On-going erosion and sedimentation control maintenance, repairs and monitoring.
5. On-going landfill gas system operations, construction, and monitoring.
6. Phase VI Baseline Construction Project.
7. Landfill Gas Company on-going system maintenance and repairs.

ARTICLE 37--ELECTRICAL WORK:

Contractor must comply with the provisions of RIGL § 5-6-2 with respect to any electrical work to be performed pursuant to the terms of that general law. To the extent the Contractor is not licensed and certified pursuant to RIGL § 5-6-2, the Contractor shall identify as part of its response to either an invitation for bid (IFB) or a request for proposal (RFP), and shall use on the project, a subcontractor licensed and certified pursuant to said general law.

ARTICLE 38--PROHIBITED CONTACTS:

All Contractors, including persons affiliated with or in any way related to them, are prohibited from contacting the RIRRC's commissioners, the RIRRC staff, consultants or attorneys for the RIRRC on any matter having to do in any respect with this RFP other than with the consent of the RIRRC's CFO or her designee. Failure of any Contractor to adhere to this prohibition may, at the sole discretion of the RIRRC, result in disqualification and rejection of any Bid. Any and all contacts with such persons associated with the RIRRC shall be made only through and in coordination with the Senior Purchasing Coordinator and shall be required to be in writing.

ARTICLE 39--NOTICE TO CONTRACTORS:

In any case where there may be references or attachments that contain language which is contrary to the language found within this RFP, the language contained in the RFP shall supersede.

ARTICLE 40--RIRRC'S RIGHTS:

This RFP does not commit the RIRRC to contract with any Contractor nor does it commit the RIRRC to an exclusive agreement with the selected Contractor for these services. The RIRRC reserves the following rights:

- to re-bid goods and/or services if, in its sole discretion, such action is deemed appropriate; To reject any and all Bids or Contractors;
- to split the award or to make multiple awards, or remove any cost items in the proposal after receipt, as deemed appropriate;
- to negotiate the bid or solicitation to further refine, clarify, amend, or expand any and all aspects of the bid or solicitation;
- to reject any and all bids if it determines, in its sole discretion, that it is in its best interest;
- to reject bids from any and all Contractors whose firm, or any principal of the firm, is currently involved in a lawsuit or claim against the RIRRC;
- to request that Contractors send a representative to our Johnston, Rhode Island, offices for an interview prior to final award of contract at the Contractor's cost;
- to accept bids that do not offer the lowest price;
- to waive any informalities or technicalities or incidental items in any bid;
- to withdraw, supplement, amend, or modify solicitations, and to request additional information, without prior notice;
- to postpone the award of a contract;
- to either award a contract to the next lowest responsive and responsible Contractor or to rebid the goods and/or services, whichever is in the RIRRC's best interest, if the selected Contractor's goods and/or services do not conform to the requirements;
- to confirm references and contact further references obtained from other sources as deemed necessary; and
- to eliminate any of the tasks in the Scope of Services and to issue a contract with a correspondingly reduced Project Work Program; and
- any additional rights as may be allowed under applicable State purchasing laws and rules.

****END OF SECTION****

SECTION 00 21 13
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

PART 1--GENERAL

1.01 GENERAL

INTENTIONALLY BLANK

PART 2--FORCE MAJEURE / UNCONTROLLABLE CIRCUMSTANCE

- 2.01 Neither the RIRRC nor the Contractor shall be liable for its failure to perform hereunder, in whole or in part, due to contingencies beyond its reasonable control (Uncontrollable Circumstance(s)), including, but not limited to strikes, riots, war, fire, acts of God, injunction, compliance with any law, regulation or order, whether valid or invalid, of the United States of America or any other governmental body or any instrumentality thereof, whether now existing or hereafter created.
- 2.02 The parties shall use their best efforts to overcome or remove any Uncontrollable Circumstance and to minimize the effect of such Uncontrollable Circumstance and any costs resulting therefor.
- 2.03 Each party shall assume the risk of all losses and damages directly incurred by them except as otherwise limited pursuant to the terms of this Contract, which arise out of an Uncontrollable Circumstance event. Neither party should be entitled to recover from the other revenues lost due to the occurrence of an Uncontrollable Circumstance, provided further, however, that each party is obligated in good faith and to the extent not detrimental to its interests and within any applicable provision of law, to jointly attempt to mitigate the damages, costs and expenses arising out of an Uncontrollable Circumstance event.
- 2.04 The party asserting that an Uncontrollable Circumstance exists shall, as a condition precedent to the right to claim the benefits of this Section, promptly after becoming aware of such Uncontrollable Circumstance, and in any event, within sixty (60) days from the date on which said party becomes or should have become aware of the occurrence of such Uncontrollable Circumstance, notify the other party of such event. This party shall then, within fifteen (15) days of such initial notice, provide a written notice of the effect, if any, on either party's obligations under this Contract, and available areas of mitigation or saving of the costs associated with such event. Each party shall continue to the anticipated impact of such Uncontrollable Circumstance.

PART 3—RELATIONSHIP AS INDEPENDENT CONTRACTOR

The Contractor's relationship with the RIRRC under this Agreement shall be that of independent contractor. Nothing in this Agreement shall be construed to designate the Contractor, or any of its employees or subcontractors, as employees, agents, joint ventures or partners of the RIRRC.

PART 4--SUBCONTRACTORS

The Contractor shall have the right to subcontract any and all services described in this Agreement, subject to the RIRRC's **prior** written approval. Subcontractor(s) shall be bound by the same terms and conditions or performance as the Contractor.

PART 5--WAIVER

No waiver by either party of any breach, default, or violation of any term, warranty, representation, agreement, covenant, condition or provision hereof shall constitute a waiver of any subsequent breach, default, or violation of the same or any other term, warranty, representation, agreement, covenant, condition or provision hereof. No waiver of any term, warranty, representation, agreement, covenant, condition or provision hereof shall be effective unless made in writing and signed by the party against which such waiver is sought to be enforced.

PART 6--CONFIDENTIALITY

The Contractor shall hold in confidence and not disclose to any person or entity other business or technical information disclosed to the Contractor by the RIRRC or acquired by the Contractor in the course of performing services hereunder for the RIRRC and which the RIRRC has marked as confidential or proprietary or requests in writing that the Contractor treats as proprietary. The obligations of this Paragraph shall survive the termination of this Agreement. The obligations of confidentiality do not apply to information which: (a) is or becomes part of the public domain outside of disclosure by the Contractor; or (b) is lawfully in the possession of the Contractor at the time it was acquired hereunder; or (c) is required to be publicly disclosed under law.

PART 7--ASSIGNMENT

This Agreements are assignable only upon the written consent of both parties and shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. Such consent shall not be unreasonably withheld nor required in the event of assignment by operation of law, assignment to an affiliate or subsidiary of the Contractor or assignment by the RIRRC to the State of Rhode Island or an agency thereof provided however in the event of an assignment by the Contractor said assignment shall not be construed to relieve the Contractor of any of the obligations under the Agreement.

PART 8--SEVERABILITY

The provisions of this Agreement shall be severable, and if any clause, sentence, paragraph, provision or other part hereof shall be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair or invalidate the remainder hereof, which remainder shall continue in full force and effect.

PART 9--CHANGE OF SCOPE

Should changes in scope be required, both parties agree to negotiate in good faith to provide for such changes. Only such changes in scope as may be accomplished in accordance with the

RIRRC's procurement procedures and the RIRRC's Rights hereunder and the general conditions of purchase hereunder shall be negotiated with the Contractor.

PART 10--OWNERSHIP OF REPORTS

Any and all reports, information, data, etc. given to or prepared for the RIRRC by the Contractor shall be the property of the RIRRC.

PART 11--SAFEGUARDS

The Contractor shall take, use, provide, and make all proper, necessary and sufficient precautions, safeguards and protections against the occurrence or happening of any accident, injury or hurt to any person or object during the progress of the work.

PART 12--SUSPENSION OF WORK

The RIRRC may, at any time and without cause, suspend the work or any portion thereof for a period of not more than twenty (20) days by verbal notice to Contractor or representatives followed by written notice. The RIRRC shall fix the date on which work shall be resumed. Contractor will resume the work on the date so fixed. Contractor may be allowed an increase in the Contract price or an extension of the Contract time, or both, directly attributable to any suspension upon documentation and cost substantiation.

PART 13--CONTRACTUAL DISPUTE

All claims, disputes, and other matters in question arising out of or relating to the Agreement or the performance or interpretation thereof shall be submitted to arbitration pursuant to the terms of Title 37, Chapter 16, of the Rhode Island General Laws, as amended.

PART 14--MULTI-YEAR CONTRACT

Multi-year contracts for supplies and services may be entered into for periods extending beyond the end of the fiscal year in which the contract was made, if funds for the first fiscal year of the contemplated contract are available at the time of contracting and the contract states that payment and performance obligations for succeeding fiscal years shall be subject to the availability of funds therefor. When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent year of a contract, the contract for the subsequent year may be cancelled and the contractor shall be reimbursed for the reasonable value of any nonrecurring costs incurred but not amortized in the price of the supplies or services delivered under the contract.

PART 15--TERMINATION

15.01 If the Contractor or the RIRRC fails to fulfill its obligations in a timely or proper manner, or if either party violates any of the material terms of the negotiated Agreement, either party shall have the right to terminate the Agreement by giving written notice to the other party. Termination of the Agreement shall in no way limit any legal rights of either party.

- 15.02 Notwithstanding the provisions of paragraph (i) above, the RIRRC reserves the right to terminate the Agreement at any time by giving the Contractor ten (10) days' written notice. The RIRRC may terminate the Agreement for any reason deemed appropriate in its sole discretion. The Contractor shall be entitled to reasonable compensation for any services rendered prior to the date of termination, subject to damages the RIRRC may have suffered due to any breach of Contract. Any finished or unfinished work performed on behalf of the RIRRC shall become the property of the RIRRC.
- 15.03 The RIRRC may terminate the Agreement in whole or in part by written or telegraphic notice if the Contractor shall become insolvent or make a general assignment for the benefit of creditors, or if a petition under any bankruptcy act or similar statute is filed by or against the Contractor and is not vacated within ten (10) days after it is filed.
- 15.04 If the Contractor disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he/she otherwise violates any provision of the Contract documents, then the RIRRC may, without prejudice to any other right or remedy and after giving Contractor and his/her surety five (5) days' written notice, terminate the services of Contractor and finish the work by whatever method the RIRRC may deem expedient. In such case, Contractor shall not be entitled to receive any further payment until the project is finished. If the unpaid balance of the Contract price exceeds the direct and indirect costs of completing the project, including compensation for additional professional services, such excess shall be paid to Contractor. If such costs exceed such unpaid balance, Contractor will pay the difference to the RIRRC.

PART 16--CONFLICT OF INTEREST

A Contractor filing a Bid thereby certifies that: No officer, agent, employee of the RIRRC has a pecuniary interest in the Bid or has participated in contract negotiations on the part of the Contractor; that the Bid is made in good faith without fraud, collusion, or connection of any kind with any other Contractor for the same call for solicitation; and the Contractor is competing solely in his/her/its own behalf without connection with, or obligation to, any undisclosed person or firm. Further, no person or firm who is listed as a Subcontractor shall be eligible to become a qualified Contractor in the same solicitation. Furthermore, no person or firm who has been involved in the preparation of a bid document shall be eligible to become a qualified Contractor in the same solicitation.

PART 17--PUBLIC RECORDS

- 17.01 Contractors are advised that all documents, correspondence, and other submissions may be accessible as public records, pursuant to Title 38, Chapter 2 of the General Laws, absent specific notice that portions of such submittals may contain confidential or proprietary information, such that public access to those items should be withheld, and except as otherwise provided for pursuant to RIGL 37-2-18 (a)-(h) "Competitive Sealed Bidding"
- 17.02 Bids shall be opened and read aloud publically at the time and place designated in the solicitation. Each bid, together with the name of the Contractor, shall be recorded and an abstract made available for public inspection.

PART 18--SET-OFF PAYMENTS

Payments due to the Contractor shall be subject to reduction by the RIRRC equal to the amount of unpaid and delinquent (over 30 days) accounts receivable or other debt owed to the RIRRC, except where delinquency has not been billed or statement issued or while the matter is pending in hearing or from any appeal therefrom.

PART 19--RHODE ISLAND CAMPAIGN CONTRIBUTIONS AND EXPENDITURES REPORTING ACT

R.I. Gen. Laws § 17-27-1 et seq. requires all state vendors contracting with a state agency for the provision of goods and/or services costing \$5,000.00 or more to file an affidavit with the State Board of Elections concerning reportable political contributions.

PART 20--OUT-OF-STATE (FOREIGN) CORPORATIONS

In accordance with R.I. Gen. Laws § 7-1.2-1401 no foreign corporation shall have the right to transact business in the State of RI until it shall have procured a certificate of authority to do so from the Secretary of State. If requested, the Vendor must furnish to the RIRRC a copy of a R.I. Certificate of Authority to Conduct Business and Registered Agent. This Certificate is to be obtained from the R.I. Secretary of State's Office (401/222-3040).

PART 21—EQUAL OPPORTUNITY COMPLIANCE

For all contracts in the amount of \$10,000 or more, Contractors are required to demonstrate the same commitment to equal opportunity as prevails under federal contracts controlled by Federal Executive Orders 11246, 11625, 11375 and 11830 and Title 28 Chapter 5.1 of the General Laws of Rhode Island. Affirmative action plans shall be submitted by the contractor for review by the State Equal Opportunity Office. A Contractor's failure to abide by the rules, regulations, contract terms and compliance reporting provisions as established shall be grounds for forfeiture and penalties as shall be established, including but not limited to suspension.

For further information pertaining to this requirement, please contact:
R.I. Equal Opportunity Office
One Capitol Hill
Providence, RI 02908-5865 (401/222-3090)

****END OF SECTION****

**SECTION 00 41 00
BID PRICE FORMS**

TO: Rhode Island Resource Recovery Corporation
34 Shun Pike
Johnston, RI 02919
Attention: Purchasing

BID FOR: RFP# 371 – OPERABLE UNIT 1 (OU1) EXISTING FINAL COVER REPAIR

The undersigned Contractor, having read and examined the Specifications and associated Contract Documents for the above-designated Work, does hereby propose to perform the Work and provide the services set forth in this Bid. All prices stated herein are firm and shall not be subject to escalation provided this Bid is accepted within one hundred twenty (120) calendar days after the time set for receipt of Bids.

The Contractor, in compliance with your Invitation for RFP# 371 OPERABLE UNIT 1 (OU1) EXISTING FINAL COVER REPAIR in the Town of Johnston, Rhode Island, having examined the Drawings 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, supplies, supervision and anything else required or necessary in order to construct the Project in accordance with the Contract Documents by the deadlines established in Section 00 21 00 – Information for Bidders, and in accordance with the prices stated in the Schedule of Bid Items. This Bid is accordingly submitted in the sum of _____ Dollars (\$ _____) for the Project. These prices cover all costs of performing the Work required under the Contract Documents of which this Bid is a part.

Contractor hereby agrees to commence work under this Contract on a date to be specified in a written “Notice to Proceed” by the RIRRC, and to fully complete each phase of the project by the deadlines established in Section 00 21 00 – Information for Bidders, Article 10, or as otherwise mutually agreed upon by the RIRRC and Contractor. Contractor further agrees to pay as liquidated damages, the sum of \$5,000.00 for each consecutive calendar Day thereafter until the Project is completed.

Upon receipt of written notice of the acceptance of this Bid, Contractor shall execute the formal Contract attached within fifteen (15) calendar Days, and deliver surety Bonds and insurance certificates as required in the General Conditions. In the event the Contract and Bond are not executed within the time set forth above, the Bid Security attached in the sum of _____ Dollars (\$ _____) shall become the property of the RIRRC as liquidated damages for the delay and additional expense to the RIRRC caused thereby.

No. _____ Dated: _____

[illegible]

BID PRICE FORMS

A.1 SCHEDULE OF BID ITEMS

The Contractor agrees to perform the Work described in the Specifications and shown on the Drawings for the following lump sum or unit prices. All prices must be given in numerical figures and must be typewritten or printed legibly in ink.

Bid Prices

<u>Item No.</u>	<u>Description</u>	<u>Method of Payment</u>	<u>Estimated Quantity</u>	<u>Unit Price (In Dollars)</u>	<u>Total Price (In Dollars)</u>
OPERABLE UNIT OU1 EXISTING CAP REPAIR PROJECT					
1.	Mobilization & Demobilization	Lump Sum	1	_____	_____
2.	Surveys and Record Drawings	Lump Sum	1	_____	_____
3.	Erosion Control & Stormwater Diversion	Lump Sum	1	_____	_____
4.	Complete Test Pits to Confirm Project Limits	Lump Sum	1	_____	_____
5.	Construct & Remove 3-ft thick temporary Access Road(s)	Unit Price per Linear Feet	300	_____	_____
6.	Remove and Stockpile Existing Topsoil Layer	Unit Price per Square Foot	45,760	_____	_____
7.	Furnish and Install 6-inch thick Base Layer Soil	Unit Price per Square Foot	45,760	_____	_____
8.	Install Owner-supplied General Fill	Cubic Yard	5,000	_____	_____
9.	Install Owner supplied 18-inch Thick Low Hydraulic Conductivity soil	Unit Price per Square Foot	10,000	_____	_____
10.	Furnish Geosynthetic Clay Liner	Unit Price per Square Foot	45,760	_____	_____
11.	Install Geosynthetic Clay Liner	Unit Price per Square Foot	45,760	_____	_____
12.	Furnish 60-mil LLDPE textured Geomembrane	Unit Price per Square Foot	45,760	_____	_____
13.	Install 60-mil LLDPE textured Geomembrane	Unit Price per Square Foot	45,760	_____	_____
14.	Furnish Composite Drainage Net	Unit Price per Square Foot	45,760	_____	_____
15.	Install Composite Drainage Net	Unit Price per Square Foot	45,760	_____	_____

16.	Furnish and Install Vegetative Support Soil	Unit Price per Square Foot	45,760	_____	_____
17.	Re-install Existing Topsoil	Unit Price per Square Foot	45,760	_____	_____
18.	Furnish and Install Seed and Hydro-mulch	Unit Price per Square Yard	7,700	_____	_____
19.	Expose Existing Final Cover Geomembrane	Unit Price per Linear Foot	840	_____	_____
20.	Weld Proposed OU1 60-mil Geomembrane to Existing Final Cover Geomembrane	Unit Price per Linear Foot	840	_____	_____
21.	Furnish and Install Geomembrane Each Well Boots		3	_____	_____

TOTAL BID PRICE (sum of Total Prices for Bid Items 1 through 21)

\$ _____
(In Figures)

Note: In case of error in the extension of prices, the unit price will govern.

The Contractor warrants that it has available or under its control, materials of the character and in the amount required to complete the proposed Work within the specified time.

A.2 ENGINEER'S ESTIMATE OF QUANTITIES

Quantities are provided for informational purposes only for use by the Contractors in developing a total Bid price. Actual quantities may be decreased, increased, or eliminated based on actual field conditions at the time of construction. Contractors are advised to develop their own material takeoff quantities from the Contract Documents. If a significant difference in quantities exists between Engineer Estimates and Contractors Estimates, Contractors shall either state that no major differences exist or detail said differences on the submitted Section 00 47 00 document for RIRRC review prior to award.

A.3 CONTRACTOR ACKNOWLEDGMENTS

Contractor acknowledges that:

1. They will submit for approval a detailed SCHEDULE OF VALUES in accordance with Specification Section 01 29 00 that will be the basis for progress payments. The Schedule of Values will detail all aspects of the Lump Sum Unit Bid Amounts included above.

- ### A.3 DECLARATION AND SIGNATURES

Respectfully submitted,

Business Address

(Seal if Bid is by a Corporation)

Vice President

Secretary

Treasurer

Further, be advised that _____, who serves as _____ of
this company, is duly authorized to enter into any resulting contract with RIRRC.

****END OF SECTION****

SECTION 00 43 13

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____, as Principal, and, _____, as Surety, are hereby held and firmly bound unto the Rhode Island Resource Recovery Corporation, as Owner, in the penal sum of _____ Dollars (\$ _____), for the payment of which, will and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

Signed, this _____ day of _____, 20_____.

THE CONDITION OF THE ABOVE OBLIGATION is such that whereas the principal has submitted to the Rhode Island Resource Recovery Corporation (RIRRC) a certain Bid attached hereto and hereby made a part hereof to enter into a Contract in writing for the RFP# 318 – PHASE V CLOSURETURF REPAIR AND MAINTENANCE PROJECT located in the Town of Johnston, Rhode Island.

NOW THEREFORE,

A. If said Bid shall be rejected, or

B. If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a Bond for his faithful performance of said Contract and for the payment of all persons performing labor, furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said Bid, then this obligation shall be void. Otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

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

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

Principal

By _____
(Surety)

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island.

****END OF SECTION****

SECTION 00 45 13
STATEMENT OF BIDDER'S QUALIFICATIONS

The following shall accompany the Bid and is required as evidence of the Contractor's qualifications. This statement must be notarized. All questions must be answered. Additional data may be submitted on separate attached sheets.

PART 1 - GENERAL

1. Name of Contractor _____
2. Permanent Main Office Address _____

3. Official Mailing Address, This Contract _____
4. Phone _____
5. When Organized _____
6. When Incorporated, If a Corporation _____
7. If your firm is a Corporation, is it currently a Corporation in Good Standing in Rhode Island? _____
8. Years Contracting Under Present Name _____
9. Is your firm certified as either a Minority Business Enterprise or a Women Business Enterprise? _____
10. Do you attest, under the penalty of perjury, to complying with the provisions of RIGL Section 37-2-13.1(b)? _____
11. List contracts on hand, and those completed similar in nature to this project.

Owner; Engineer; Work Performed (Description); Contract Date; Amount Complete; Subcontractor.

12. List any work the firm has failed to complete, state where and why.

13. If you have ever defaulted on any contract, state where and why.

14. Has your firm been reorganized or reincorporated within the past 5 years? _____

15. Have you or any other principal of this firm filed for bankruptcy of any business venture within the past 3 years? _____

16. Has your firm (or any principal) been subject to either Suspension or Debarment by the State of Rhode Island or any other jurisdiction within a 3-year period preceding the submittal of this Bid? _____

17. Has any principal, officer, or manager of this firm ever been convicted of or had a civil judgment rendered against them for commission of fraud? _____

18. Has your firm (or any principal), within a 3-year period preceding the submittal of this Bid, been convicted of a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property? _____

If you have answered "yes" to any of questions 14-18, please provide details and current status.

PART 2 – PROJECT RELATED EXPERIENCE

Contractor shall list at least five (5) landfill specific projects, similar in character, scope and size to the work specified under this project which have been successfully completed by the Contractor in the last ten (10) years. This information must be furnished by each Contractor, failure to provide this information may be cause for disqualification of the bid. The term “completed” means accepted and final payment received from the owner or authorized representative. The term “similar in character” means projects that demonstrate experience in this subject area of this bid. This form may be duplicated if additional space is required. If Contractors do not have experience in projects of similar nature, they should provide a written

narrative as to why they are qualified to perform the work and what measures they intend to employ to familiarize themselves with the project work.

Project Name/Location/Completion Date	Owners Name & Address	Contact Name/Phone No.	% of Work (firm was/is responsible)	Contract Price

Prospective Contractors shall also provide experience and qualifications of the Project Manager, Project Field Superintendent, and various Subcontractors to be assigned to this project. The Project Manager, Project Field Superintendent, and various Subcontractors assigned to the project should have experience in projects similar in character, as defined above. This information must be furnished by each Contractor, failure to provide this information may be cause for disqualification of the bid.

Name of Staff / Position	Previous Projects completed	Project Responsibility

NAME: _____

BY: _____
(Signature and Title of Authorized Representative)

ADDRESS _____
(Business Address)

(City and State)

DATE: _____

NOTARIZED

Signed before me on this _____ day of _____, of 20 ____ .

Notary Public Seal

My Commission Expires: _____

****END OF SECTION****

SECTION 00 45 14
BIDDER'S REFERENCES

The following shall accompany the Bid and is required as evidence of the Contractor's references. Please provide **at least three (3) positive, relevant references** along with a brief description of the goods and/or services provided for the referenced company. It is strongly suggested that the references provided are in fact relevant to the goods and/or services requested in this bid. Please note that RIRRC should not be listed as a reference. This form may be duplicated and additional references provided, as an option.

1. Name of Contractor _____
2. Permanent Main Office Address _____

3. Official Mailing Address, This Contract _____

REFERENCES:

1. Reference's Company Name _____
2. Company Address _____
3. City, State, Zip Code _____
4. Telephone No. _____
5. Contact Person _____
6. E-Mail Address _____

Brief Description of Goods and/or Services Provided:

1. Reference's Company Name _____
2. Company Address _____
3. City, State, Zip Code _____
4. Telephone No. _____
5. Contact Person _____
6. E-Mail Address _____

Brief Description of Goods and/or Services Provided:

1. Reference's Company Name _____
2. Company Address _____
3. City, State, Zip Code _____
4. Telephone No. _____
5. Contact Person _____
6. E-Mail Address _____

Brief Description of Goods and/or Services Provided:

****END OF SECTION****

SECTION 00 47 00
BIDDER'S TECHNICAL PROPOSAL/WORK PLAN/SCHEDULE

The following shall accompany the Bid and is required as a description of the Contractor's technical proposal/work plan/schedule for the project being bid. The Contractor shall state that the goods, materials, and/or services to be provided fully conform to the project requirements and technical specifications attached as part of this Bid. Alternatively, if the Contractor's product, materials, and/or services do not conform, the Contractor must list those items which differ, adequately describe how they differ, adequately describe why they are being proposed, and provide information to support the claim that the Contractor's product, materials, and/or service meets or exceeds the requirements contained in this Bid. RIRRC reserves the right to reject all Bids that do not provide adequate information to support the alternative proposed.

The Contractor must also submit a detailed Work Plan and Schedule, describing how the Contractor will accomplish the Scope of Work contained in this Bid to meet the specified project deadline outlined with the documents. The work plan must include a detailed schedule and the means and methods of how the Contractor will plan to access and complete each phase of the project. Contractors must clearly demonstrate that they have an understanding of the difficulties associated with this project and their approach to completing it within the timeframes specified herein. Contractors must identify that they have an understanding of RIRRC's ongoing operations, and will work with RIRRC to sequence project milestones. The successful Contractor will be required to submit, during a pre-construction meeting, an updated schedule, indicating anticipated start/end dates, major project milestones, etc. to meet the project deadline for review and approval by RIRRC. The Contractor shall indicate the required manpower and amount, type, and model of equipment intended to be used to complete this project. RIRRC reserves the right to reject all Bids that do not provide a **detailed** Work Plan and Schedule. The Contractor may use an attachment if additional room is required to supply this information.

The Contractor must also state that they have reviewed the quantities as provided on the Bid Price Form and did not discover any significant differences while performing quantity takeoffs in preparation of the bid document.

Failure to provide all the details required above will be the cause for disqualification of the bid.

1. Name of Contractor _____

TECHNICAL PROPOSAL:

WORK PLAN:

SCHEDULE:

****END OF SECTION****

Office of Diversity, Equity and Opportunity (ODEO)
MBE Compliance Office
1 Capitol Hill, 3rd Floor
Providence, RI 02908

(401) 574-8670
www.mbe.ri.gov

Pursuant to RIGL 37-14.1 as well as the regulations promulgated thereto, the MBE Compliance Office requires that you complete the following table. Please note that these figures will be verified with the MBEs identified. If there are outstanding issues, such as retainage or a dispute, please indicate and attach supporting documentation for same. Also note that copies of invoice and cancelled checks for payment to all MBE subcontractors and suppliers are required.

Contractor/Vendor Name:

Project Name & Location:

Original Prime Contract Amount: \$ _____ **Current Prime Contract Amount: \$** _____ **% Complete: _____**

MBE/WBE Subcontractor	Original Contract Amount	Change Orders	Revised Contract Value	% Completed To Date	Amount Paid To Date	Amount Due	Retainage %	Retainage Amount	Explanation

I declare, under penalty of perjury, that the information provided in this verification form and supporting documents is true and correct.

Signature

Date

Printed Name

Notary Certificate:

Sworn before me this _____ day of _____, 20____.

Notary Signature

Commission Expires

SECTION 00 47 13
PROPOSED SUBCONTRACTORS
AND
MBE/WBE PARTICIPATION

The Contractor shall state the names of ALL Subcontractors that it proposes to use.

If none, write "none" _____

Description of work _____

Proposed Subcontractor Name _____

Address _____

Minority Business (YES or NO) _____

IF YES, Amount to be subcontracted _____

RI ODEO Certification or Federal Certification Attached _____

Description of work _____

Proposed Subcontractor Name _____

Address _____

Minority Business (YES or NO) _____

IF YES, Amount to be subcontracted _____

RI ODEO Certification or Federal Certification Attached _____

Description of work _____

Proposed Subcontractor Name _____

Address _____

Minority Business (YES or NO) _____

IF YES, Amount to be subcontracted _____

RI ODEO Certification or Federal Certification Attached _____

TOTAL AMOUNT TO BE SUBCONTRACTED BY MBE/WBE (A) \$ _____

TOTAL PROJECT COST (FROM FORM Section 00 41 00) (B) \$ _____

PERCENT MBE/WBE (A divided by B) % _____

This is to certify that the names of the above-mentioned Subcontractors are submitted with full knowledge and consent of the respective parties.

The Contractor warrants that none of the proposed Subcontractors have any conflict of interest as respects this Contract.

To the extent that the Contractor uses additional or substitute Subcontractors, the Owner/RIRRC shall be notified within 48 hours of said selection.

NOTE: The Subcontractor must be registered with the State of RI ODEO Office or hold a Federal Certification governed by 13 C.F.R. part 124. A Compliance Certification for each listed minority subcontractor must accompany this form in order to be considered in the equation.

CONTRACTOR _____
(Fill in name)

By: _____
(Signature and Title)

****END OF SECTION****

SECTION 00 52 00
AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 20____, is by and between the "Rhode Island Resource Recovery Corporation," hereinafter called "RIRRC," and

(Name of Contractor)
doing business as _____
(an individual) (a partnership) (a corporation)
in the City of _____, County of _____ and
State of _____, hereinafter called "Contractor."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The Contractor acknowledges that it has received, read, and understands the Invitation for Bid, Information for Bidders, the Bid (which shall include any post-Bid documentation submitted prior to the Notice of Award and attached to the Agreement), the Bonds, the Specifications and Drawings, and the General Conditions and any Supplementary Conditions provided by the RIRRC (those documents and any amendments, modifications, supplements, or Addenda thereto are hereinafter collectively referred to as the "Contract Documents"). The terms and conditions of the Contract Documents, and all attachments thereto, are hereby incorporated in this Agreement by reference, except to the extent such terms and conditions are inconsistent with any terms and conditions of this Agreement and subject to paragraph 5 below. In any case where specific terms and conditions included in this Agreement differ from those terms and conditions set forth in the Contract Documents, the terms of this Agreement shall govern. The RIRRC and Contractor agree to be bound to the terms of the Contract.
2. The Contractor will commence and complete the RFP No. 371 – Operable Unit 1 (OU1) Existing Final Cover Repair at the RIRRC Facility located in the Town of Johnston, Rhode Island (The Project).
3. The Contractor will furnish any and all materials, supplies, tools, equipment, labor and other services necessary for the full construction and completion of the Project, without exclusions or exceptions.
4. The Contractor will commence the work required by the Contract Documents on a date to be specified in a written "Notice to Proceed" (the "Commencement Date") by RIRRC, and will Achieve Final Completion by June 30, 2027, unless the period for completion is extended by the RIRRC in writing. The Contractor further agrees to pay as liquidated damages the sum of \$5,000.00 for each Calendar Day that the Project is not completed after the anticipated completion date, as provided in SECTION 00 72 00 - GENERAL CONDITIONS and SECTION 00 21 00 - INFORMATION FOR BIDDERS.
5. The CONTRACTOR agrees to perform all of the Work described in the Contract Documents and Addendum(s), and to comply with the terms therein, for the amount noted by the CONTRACTOR in SECTION 00 41 00 – BID PRICE FORMS.

6. The RIRRC will pay the Contractor in the manner and at such times as are set forth in Article 14 of SECTION 00 72 00 - GENERAL CONDITIONS the amounts set forth in the Contract Documents.
7. Nothing herein or in the Contract Documents shall be construed to create any personal liability on the part of any officer, agent, employee, or director of RIRRC, nor shall the Contract Documents be construed to give any rights or benefits hereunder to anyone other than the RIRRC and the Contractor.
8. The Contractor will indemnify and hold the RIRRC harmless from any and all loss, damages, suits, penalties, violations, costs, liabilities and expenses (including, but not limited to, reasonable investigation and legal expenses) arising out of any claim including claims for loss of or damage to property, including RIRRC's property, and injuries to or death of persons, including RIRRC's employees, caused by or resulting from Contractor's or the Contractor's agents, or subcontractors negligence or willful misconduct or breach of this Agreement. In any instance in which RIRRC claims indemnity under this paragraph, Contractor shall have the duty to defend RIRRC in any litigation arising out of the occurrence from which RIRRC claims that Contractor's indemnity obligation exists.
9. The Contractor warrants that neither it nor any of its principals, officers, agents or representatives authorized to make commitments on its behalf have ever been convicted of violating any statute relating to bribery, fraud, or bid-rigging in this state or in any other state in this country. Further, the Contractor agrees to perform all services and provide all goods called for by this Agreement in compliance with all Federal, State, and Municipal laws and regulations.
10. This Agreement and the Contract Documents represent the entire understanding of the RIRRC and Contractor with respect to the Project. No prior oral or written understanding shall be of any force or effect with respect to any matter covered hereunder. This Agreement may not be modified or altered except in writing signed by both parties.
11. This Agreement shall be governed by and interpreted under the laws of the State of Rhode Island. All claims, disputes, and other matters in question arising out of or relating to this Contract or the performance or interpretation thereof shall be submitted to arbitration pursuant to the terms of Title 37, Chapter 16, of the Rhode Island General Laws, as amended.
12. This Agreement shall be binding upon the parties hereto and their respective heirs, executors, administrators, successors, and assigns. The Contractor shall not be permitted to assign this Agreement except with the written consent of the RIRRC.
13. Multi-year Contracts. This Agreement is subject in all respects to the provisions of RIGL § 37-2-33, which provisions are incorporated by this Agreement.
14. Equal Opportunity Compliance. This contract is subject to Equal Opportunity Compliance.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized officials, this Agreement in two (2) copies, each of which shall be deemed an original, on the date first above written.

RHODE ISLAND RESOURCE RECOVERY CORPORATION (Owner)

BY: _____

BY: _____

(Contractor)

BY: _____

(Title)

(Address)

Visit RIIdlt.gov to get up to date RI prevailing wage information

****END OF SECTION****

SECTION 00 61 13
PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____, as Contractor, of _____ and _____, hereinafter called the "Surety," are held and firmly bound unto the Rhode Island Resource Recovery Corporation, 34 Shun Pike, Johnston, Rhode Island, 02919, hereinafter called the "RIRRC," and to such persons, firms and corporations which may furnish materials for or perform labor on the Work, construction, or improvements, contemplated in the Agreement hereinafter mentioned, or which may have any suits or claims for injury or damage to persons or property resulting from or arising out of the Work done under this Agreement in the penal sum of _____ Dollars (\$ _____) (lawful money of the United States of America) for the payment whereof the Contractor and the Surety or Sureties bind themselves and their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS THE Contractor has by means of a written agreement dated on the _____ day of _____, 20____ (the Agreement) entered into a written contract with the RIRRC for the RFP# 371 – Operable Unit 1 (OU1) Existing Final Cover Repair and related work and other incidentals (the Project) _____ for _____ the _____ sum _____ of _____ approximately _____ Dollars (\$ _____).

NOW, THEREFORE, the condition of this obligation is such that if the Contractor 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 extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment, and tools consumed or used in connection with the construction of such Work, and all insurance premiums on said Work, and for all labor performed in such work whether by Subcontractors or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, THAT (except as to the RIRRC) no suit, action, or proceeding, by reason of any default whatever shall be brought on this Bond after two years from the day on which the final payment under the Agreement fall due.

AND PROVIDED, that any alterations which may be made in the terms of the Agreement or in the Work to be done under it or any assignment, transfer, or subletting of any part of the Work, or the giving by the RIRRC of any extension of time for the performance of the Agreement or any other forbearance on the part of either the RIRRC or the Contractor to the other, shall not in any way release the Contractor and the Surety or Sureties, or either or any of them their heirs, executors, administrators, successors or assigns from their liability hereunder, notice to the Surety or Sureties of any such alterations, assignment, transfer, subletting extension of forbearance being hereby waived.

AND PROVIDED FURTHER, the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the term of the Agreement, the Work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alternation or addition to the terms of the Agreement, the Work, or to the Specifications.

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

IN WITNESS WHEREOF, said Contractor and Surety have hereunto set their respective names this _____ day of _____, 20____.

WITNESSES:

(Contractor) (Seal)

Name By: (Signature and Title)

Address Surety: (Signature and Title)

Name By: (Signature and Title)

Address Attorney-in-fact

POWER OF ATTORNEY

Any attorney-in-fact whom signs Contract Bonds must file with each Bond a certified copy of his or her power of attorney to sign said Bonds.

NOTE: The date of the BOND must not be before the date of the Agreement. If Contractor is a Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island.

****END OF SECTION****

SECTION 00 61 14
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
as Contractor, of _____, and _____,
hereinafter called the "Surety," are held and firmly bound unto the Rhode Island Resource
Recovery Corporation, 34 Shun Pike, Johnston, Rhode Island, 02919, hereinafter called the
"RIRRC," and to such persons, firms and corporations which may furnish materials for or
perform labor on the Work, construction, or improvements contemplated in the Agreement
hereinafter mentioned, or which may have any suits or claims for injury or damage to persons or
property resulting from or arising out of the Work done under this Agreement in the penal sum
of _____ Dollars
(\$ _____) (lawful money of the United States of America) for
the payment whereof the Contractor and the Surety or Sureties bind themselves and their heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS THE Contractor has
by means of a written agreement dated on the _____ day of _____,
20____ (the Agreement) entered into a written contract with the RIRRC for the RFP# 371 –
Operable Unit 1 (OU1) Existing Final Cover Repair and related work and other incidentals (the
Project) _____ for _____ the _____ sum _____ of _____ approximately
Dollars
(\$ _____).

NOW, THEREFORE, the condition of this obligation is such that if the Contractor shall
faithfully perform the Agreement on its part and during the life of any guarantee or warranty,
including warranty for defective materials and workmanship required under this Agreement, and
satisfy all claims and demands incurred for the same, including without limitation any claim for
liquidated damages for delay; and shall fully indemnify and save harmless the RIRRC from all
cost and damage which may suffer by reason of failure to do so, and shall fully reimburse and
repay the RIRRC all outlay and expense which the RIRRC may incur in making good any such
fault, and shall promptly make payment to all persons supplying labor or materials for use in the
prosecution of the Work provided for in said Agreement; and shall indemnify and save harmless
the RIRRC, its officers, agents, employees, and directors from any and all suits or claims for
injury or damage to persons or property resulting from or arising out of work done under this
Agreement, including without limitation reasonable attorney's fees and expenses incurred in any
proceeding to enforce RIRRC rights under this Bond, then this obligation shall be null and void;
otherwise it shall remain in full force and effect.

PROVIDED, HOWEVER, THAT (except as to the RIRRC) no suit, action, or proceeding, by
reason of any default whatever shall be brought on this Bond after two years from the day on
which the final payment under the Agreement falls due.

AND PROVIDED, that any alterations which may be made in the terms of the Agreement or in
the Work to be done under it, or any assignment, transfer, or subletting of any part of the Work,
or the giving by the RIRRC of any extension of time for the performance of the Agreement or
any other forbearance on the part of either the RIRRC or the Contractor to the other, shall not in
any way release the Contractor and the Surety or Sureties, either or any of them, their heirs,
executors, administrators, successors or assigns from their liability hereunder, notice to the
Surety or Sureties of any such alterations, assignments, transfer, subletting, extension or
forbearance being hereby waived.

AND PROVIDED FURTHER, the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Agreement, the Work to be performed thereunder or the Specifications accompanying the same shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement, the Work, or to the Specifications.

AND PROVIDED, FURTHER, that no final settlement between the RIRRC and the Contractor shall abridge the right of any beneficiary hereunder, where claim may be satisfied.

IN WITNESS WHEREOF, said Contractor and Surety have hereunto set their respective names this _____ day of _____, 20____.

WITNESSES:

(Contractor) (Seal)

Name

By: (Signature and Title)

Address

Surety: (Signature and Title)

Name

By: (Signature and Title)

Address

Attorney-in-fact

POWER OF ATTORNEY

Any attorney-in-fact who signs Contract Bonds must file with each Bond a certified copy of his or her power of attorney to sign said Bonds.

NOTE: The date of the BOND must not be before the date of the Agreement. If Contractor is a Partnership, all partners should execute Bonds.

IMPORTANT: Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island.

****END OF SECTION****

SECTION 00 72 00
NUMERICAL ORDER
INDEX TO GENERAL CONDITIONS

ARTICLE	TITLE	PAGE
1	Definitions	1
2	Preliminary Matters	6
3	Contract Documents: Intent, Amending, Reuse	9
4	Availability of Lands; Physical Conditions;	11
5	Bonds and Insurance	14
6	Contractor's Responsibilities	22
7	Other Work	33
8	Owner's Responsibilities	34
9	Engineer's Status during Construction	35
10	Changes in the Work	37
11	Change of Contract Price	42
12	Change of Contract Time	48
13	Warranty and Guarantee; Test and Inspections; Correction, Removal or Acceptance of Defective Work	50
14	Payments to Contractor and Completion	54
15	Suspension of Work and Termination	59
16	Contractual Disputes	62
17	Miscellaneous	62

SECTION 00 72 00
GENERAL CONDITIONS

ARTICLE 1 DEFINITIONS

Wherever used in the Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

Addenda

Written or graphic instruments issued prior to the execution of the Agreement that modify or interpret the Contract Documents, Drawings, and Specifications, by additions, deletions, clarifications or corrections.

Agreement or Contract

The written agreement between RIRRC and Contractor covering the Work to be performed; other Contract Documents are made a part thereof as provided therein.

Bid

The offer or bid of the Contractor submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder

Any person, firm or corporation submitting a Bid for the Work.

Bonds

Bid, Performance, and Payment Bonds and other instruments of security, furnished by the Contractor and its Surety in accordance with the Contract Documents.

Change Order

A written order to the Contractor authorizing an addition, deletion or revision in the Work within the general scope of the Contract Documents, or authorizing an adjustment in the Contract Price or Contract Time.

Construction Superintendent

That person designated by the Contractor as its authorized representative to carry out the provisions of the Contract.

Contract Documents

All of the documents included as a part of the Contract, typically including, Invitation for Bids, Information for Bidders, Bid Price, Bid Bond, Agreement, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Change Orders, General Conditions, Special Conditions, Drawings, Specifications, and Addenda.

Contract Price

The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

Contract Time / Contract Period

The number of calendar days stated in the Contract Documents for the completion of the Work. If a specified completion date is given as part of the Contract Documents, then the Contract Time is the time between the Effective Date of the Agreement and the specified completion date.

Contractor

The person, firm, or corporation with which RIRRC has executed the Agreement.

Corporation / "RIRRC" / "Owner"

Rhode Island Resource Recovery Corporation or its successor or assignee with whom Contractor has entered into the Agreement and for whom the Work is to be provided.

Datum or Levels

The figures given in the Contract and Specifications or upon the Drawings after the word "Elevation" or abbreviation of it, shall mean the distance in feet above mean sea level, the base of the State of Rhode Island and the United States Geodetic Survey (U.S.G.S.).

Days

Unless otherwise indicated, days shall hereinafter be defined as calendar days.

Defective

An adjective which, when modifying the word "Work," refers to Work that is unsatisfactory, faulty or deficient, or 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 Project Managers and/or Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by RIRRC at Substantial Completion in accordance with this SECTION 00 72 00, paragraph 14.08 or 14.10).

Drawings

The part of the Contract Documents that show the characteristics and scope of the Work to be performed and which have been prepared or approved by the Engineer.

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.

Elevation

The figures given on the Drawings or in the other Contract Documents after the word "elevation" or abbreviation of it shall mean the distance in feet above the datum adopted by the Engineer.

Engineer

The person, firm, or corporation acting in the capacity of engineer for the RIRRC.

Extra Work

Items of work or material not originally anticipated in the Contract, but which are necessary and approved by the Corporation for the proper completion of the Project.

Field Order

A written order effecting a change in the Work not involving an adjustment in the Contract Price, or an extension of the Contract Time, issued by the Project Manager or Engineer to the Contractor during construction.

Final completion

That date, as certified by the Project Manager or Engineer when the Project is fully completed in accordance with the Contract Documents and all obligations under Section 00 72 00, paragraph 14.13 are met.

Intent of Terms

The words, "as directed," "as permitted," or words of like effect shall mean that the direction, permission, or requirement of the Engineer and/or RIRRC is intended, and similarly the words "approved," "acceptable," "satisfactory."

Laws and Regulations

Laws, rules, regulations, ordinances, permits, codes and/or orders.

Major and Minor Contract Items

Any item having an original value in excess of ten (10) percent of the original Contract amount shall be considered to be a "Major Item," unless otherwise indicated in Section 01 29 00 - Measurement and Payment Section. All other original Contract items shall be considered "Minor Items." In addition, any Minor Item which increases, in quantity, by 100 percent will be considered a Major Item. The revised quantity will then be considered the original Contract quantity for purposes of determining a Major Item of Work under paragraph 10.11; Significant Changes in the Character of Work

Notice of Award

The written notice of the acceptance of the Bid from the RIRRC to the successful Contractor.

Notice to Proceed

Written communication issued by the RIRRC to the Contractor authorizing him/her to proceed with the Work at the site.

Partial Utilization

Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work in accordance with Section 00 72 00 – paragraph 14.10.

Project

The undertaking to be performed as provided in the Contract Documents.

Project Manager

The authorized representative of the RIRRC who is assigned to the Project site or any part thereof. This may be an employee of the RIRRC, the Engineer, or an employee of a third party firm or corporation.

Shop Drawings

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

Specifications

A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards, and workmanship.

Subcontractor

An individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.

Submissions

All documents, including but not limited Shop Drawings, samples, test results, or other things required by the Contract Documents to be provided to the RIRRC, Project Manager or Engineer by the Contractor for approval or comment prior to commencement of any portion of the Work or after completion of the Work.

Substantial Completion

That date, as certified by the Project Manager or Engineer when the construction of the Project or a specified part thereof is sufficiently completed in accordance with the Contract Documents, so that the Project or specified part can be utilized for the purposes for which it is intended.

Supplier

Any person or organization which supplies materials or equipment for the Work, including that fabricated to a special design, but which does not perform labor at the site.

Surety

Company or entity that provides the Bonds as financial assurance to the RIRRC against loss, damage or default resulting from failure by the Contractor to perform all duties and obligations in accordance with the Contract Documents.

Underground Facilities/Utilities

All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasement containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gas, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Unit Price Work

Work to be paid for on the basis of unit prices.

Work

The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

Work Directive Change

A written directive to Contractor, issued on or after the Effective Date of the Agreement and signed by RIRRC and recommended by Project Manager or Engineer, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in this SECTION 00 72 00, paragraph 4.02 or 4.03, or to emergencies under paragraph 6.22. A Work Directive Change may not change the Contract Price or the Contract Time but is evidence that the parties expect that the change directed or documented by a Work Directive Change 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 Time as provided in paragraph 10.2.

Written Amendment

A written amendment of the Contract Documents, signed by RIRRC and Contractor on or after the Effective Date of the Agreement and normally dealing with the non-engineering or nontechnical rather than strictly Work-related aspects of the Contract Documents.

ARTICLE 2 PRELIMINARY MATTERS

Delivery of Bonds:

- 2.01 When Contractor delivers the executed Agreements to RIRRC, Contractor shall also deliver to RIRRC such bonds as Contractor may be required to furnish in accordance with SECTION 00 72 00, Article 5.

Copies of Documents:

- 2.02 RIRRC shall furnish to Contractor one (1) executed copy (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Time; Notice to Proceed:

- 2.03 The Contract time commences to run on the Effective Date of the Agreement. A Notice to Proceed may be given at any time after the Effective Date of the Agreement and does not change or alter the established Contract Time, provided it is given within seven (7) days of the Effective Date of the Agreement.

Starting the Project:

- 2.04 Contractor shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Notice to Proceed is given.

Before Starting Construction:

- 2.05 Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The Contractor shall promptly report in writing to the RIRRC or the Project Manager any conflict, error or discrepancy which the Contractor may discover and shall obtain a written interpretation or clarification from the RIRRC or the Project Manager before proceeding with any Work affected thereby; however, Contractor shall not be liable to RIRRC or Engineer for failure to report a conflict, error

or discrepancy in the Contract Documents, unless Contractor had actual knowledge thereof.

2.06 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Project Manager and Engineer for review:

2.06.1 A detailed construction schedule showing the order of all Work and indicating the starting, completion, and milestone dates of the various stages of the Work;

2.06.1.1 The construction schedule shall be based on the specified Contract Time, using adequate labor forces working within the available hours as specified in Section 00 73 00 – Article 10.

2.06.1.2 The construction schedule shall be updated as required by the Project Manager or Engineer.

2.06.2 A schedule of required Shop Drawing and material Submissions;

2.06.3 A Safety Plan developed specifically for the work site taking into due consideration any potential hazardous materials or conditions the Contractor may encounter in performing the various features of its Work. The Plan shall be prepared in accordance with 29 CFR 1910 and 1926. In the preparations of the Safety Plan, the Contractor must take into considerations the various hazardous materials present at the site as required by 29 CFR 1910.120.

2.06.4 A quality control plan which shall include the procedures, instructions, and reports to be used. This document shall include as a minimum:

2.06.4.1 The quality control organization.

2.06.4.2 Number and qualifications of personnel to be used for this purpose.

2.06.4.3 Authority and responsibilities of quality control personnel.

2.06.4.4 Methods of quality control including that for the Subcontractor's work.

- 2.06.4.5 Method of documenting quality control operations, inspection, and testing.
 - 2.06.4.6 Safety inspection procedures.
 - 2.06.4.7 A copy of a letter of direction to Contractor's representative responsible for quality control, outlining its duties and responsibilities, and signed by a responsible officer of the firm.
- 2.07 Before any Work at the site is started, Contractor shall deliver to RIRRC, with a copy to Engineer, certificates (and other evidence of insurance), which Contractor is required to purchase and maintain in accordance with paragraph 5.03 and 5.04. RIRRC may deliver to Contractor certificates (and other evidence of insurance if requested by Contractor) which RIRRC is required to purchase and maintain in accordance with paragraphs 5.05 and 5.06.

Preconstruction Conference:

- 2.08 Before Contractor starts the Work at the site, a conference attended by Contractor, Engineer, Project Manager, and such others as RIRRC deems appropriate will be held, on a date specified by the RIRRC, to discuss the schedules referred to in paragraph 2.06, site logistics, and procedures for handling Submissions and processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

Finalizing Schedules:

- 2.09 At least ten Days before submission of the first Application for Payment, a conference attended by Contractor, Project Manager and others as appropriate may be held to finalize, if necessary, the schedules submitted in accordance with paragraph 2.06. The finalized construction schedule will be acceptable to Project Manager as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose a RIRRC responsibility for the progress or scheduling of the Work nor relieve Contractor from full responsibility thereof. The finalized schedule of Submissions will be acceptable to Engineer as providing a workable arrangement for processing the Submissions.

ARTICLE 3 CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

- 3.01 The Contract Documents signed and issued comprise the entire Agreement between RIRRC and Contractor concerning the Work. The Contract Documents are to be considered together and are intended to be mutually complementary, so that any Work shown on the Plans though not specified in the Specifications, and any Work specified in the Specifications though not shown on the Plans, is to be executed by the Contractor as a part of this Contract. Should the Drawings or the Specifications disagree in themselves or with each other, Drawings shall control as to any conflict regarding location or quantity, and Specifications shall control as to any conflict regarding quality of performance. No such duplication, conflict or discrepancy is intended by the Contract Documents, and any duplication, conflict or discrepancy specified shall not become a basis for any increase in the Contract Price.
- 3.02 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 Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result must be supplied by the Contractor whether or not specifically called for at no additional cost to the RIRRC. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or Laws or Regulations in effect at the time of opening of Bids except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of RIRRC, Contractor, or Engineer, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to RIRRC, or any of RIRRC's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15. Clarifications and interpretations of the Contract Documents shall be issued by Project Manager / Engineer as provided in paragraph 9.03.
- 3.03 If during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to Project Manager and Engineer in writing at once and before proceeding with the Work affected thereby, and shall obtain a written interpretation or clarification from the same. However, Contractor shall not be liable to RIRRC or Engineer for failure to report any conflict, error or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof or should have

reasonably known thereof. Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

Amending and Supplementing Contract Documents:

3.04 The Contract Documents may be amended, only by signature of the RIRRC, 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:

3.04.1 A formal Written Amendment

3.04.2 A Change Order (pursuant to paragraph 10.04), or

3.04.3 A Work Directive Change (pursuant to paragraph 10.01).

As indicated in paragraphs 11.02 and 12.01, Contract Price and Contract Time may only be changed by a Change Order or a Written Amendment by RIRRC.

3.05 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.05.1 A Field Order (pursuant to paragraph 9.04)

3.05.2 Engineer's approval of a Shop Drawing or sample (pursuant to paragraphs 6.26 and 6.27), or

3.05.3 Project Manager or Engineer's written interpretation or clarification (pursuant to paragraph 9.03).

Reuse of Documents:

3.06 Neither Contractor nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with RIRRC shall 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; and they shall not reuse any of them on extensions of the Project or any other project without written consent of RIRRC and Engineer and specific written verification or adaptation by Engineer.

ARTICLE 4 AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

Availability of Lands:

4.01 RIRRC shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of Contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by RIRRC, unless otherwise provided in the Contract Documents. If Contractor believes that any delay in RIRRC's furnishing these lands, rights-of-way or easements entitles Contractor to an extension of the Contract Time, Contractor may make a claim therefor as provided in Article 12. Limited land will be made available by the RIRRC for the Contractor's use for storage of materials and equipment. Space for storage may be outside the limits of Work. The Contractor is responsible for all damages and vandalism that may occur to its equipment and material.

4.02 Physical Conditions:

4.02.1 Explorations and Reports: As-built Drawings for previous work conducted within the work limits of the Project.

4.02.1.1 The data shown is for general information of Contractors. Contractors are expected to examine the site and the compiled record of investigations, and then decide for themselves the character of materials to be encountered. No warranty, either expressed or implied, is made as to the accuracy of the subsurface or other locational information presented.

4.02.1.2 Variations in existing ground conditions differing from those indicated on the Contract Documents shall not constitute grounds for changes in Contract Price or completion dates of this Contract unless the procedure outlined in Section 10.07 is complied with.

4.02.1.3 Upon request and approval by the RIRRC, the Contractors may be allowed the right to make subsurface explorations they deem necessary to satisfy themselves of the existing ground conditions.

4.02.1.4 Additional reports and investigations for the facility may be available at the office of the RIRRC.

4.02.2 Existing Structures: Pertinent data regarding existing structures are indicated on the Drawings. Additional data may be available pertaining to these structures at the office of the RIRRC. It shall be the responsibility of the Contractor to verify all dimensions, elevations, locations and aspects of existing structures and utilities which effect the Work proposed under this Contract.

4.03 Physical Conditions - Underground Facilities:

4.03.1 Shown or indicated: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities (Including landfill gas collection system) at or contiguous to the site is based on information and data furnished to RIRRC or Engineer by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in SECTION 00 73 00 - SUPPLEMENTAL CONDITIONS:

4.03.1.1 The location of existing underground pipes, conduits, and structures, as shown, has been collected from the best available sources. RIRRC, together with its agents, does not guarantee the completeness of the data and information showing underground pipes, conduits, structures and such other parts, nor their locations as indicated. Contractor shall assume that there are existing water/sewer/electrical/cable connections to each and every building enroute, whether they appear on the Drawings or not. Any expense and/or delay occasioned by utilities and structures, or damage thereto, including those items not shown, shall be the responsibility of Contractor, at no additional expense to RIRRC.

4.03.1.2 Before proceeding with construction operations, Contractor shall comply with Section 00 21 00 – Article 40, and shall make such supplemental investigations, including exploratory excavations, by hand digging, as it deems

necessary to uncover and determine the exact locations of utilities and structures, and it shall have no claims for damages due to encountering subsurface structures or utilities in locations other than shown on the Drawings, or which are made known to Contractor prior to construction operations. Contractor shall be responsible and liable for all damages to the existing utilities and structures.

4.03.1.3 Contractor shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents.

4.03.2 Not shown or indicated. If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which Contractor could not reasonably have been expected to be aware of, Contractor shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the owner of such Underground Facility and give written notice thereof to that owner and to RIRRC and Engineer. RIRRC will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility and the Contract Documents may be amended or supplemented to the extent necessary. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. Contractor may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and which Contractor could not reasonably have been expected to be aware of. If the parties are unable to agree as to the amount or length thereof, Contractor may make a claim therefor as provided in Articles 11 and 12.

4.03.3 Whenever it may be necessary to cross or interfere with existing culverts, drains, sewers, water pipes or fixtures, guardrails, fences, gas pipes or fixtures, or other structures and service connections needing special care, due notice shall be given to Project Manager and any affected utility or authority, and the Work shall be done according to the utility or authority's directions. Whenever required, all objects shall be strengthened to meet any additional stress that the Work herein specified may impose upon them, and any damage caused shall be thoroughly repaired. Such Work shall be the

responsibility of Contractor and shall be performed at no additional expense to RIRRC.

4.03.4 Contractor shall be responsible for all mains or utilities encountered and damaged during the progress of the Work, and shall cause to be repaired and be responsible for correcting all damages caused to existing utilities and structures at no additional expense to RIRRC. Contractor shall contact the proper utility or authority to correct or make any changes due to utility or other obstructions during the Work, but the entire responsibility and expense shall be with Contractor to repair said damage.

4.03.5 All damaged items of Work, or items required to be removed and replaced due to construction, shall be replaced or repaired by Contractor to the complete satisfaction of the property owners, and/or Project Manager and RIRRC, at no additional expense to RIRRC.

4.04 Contractor shall limit its activities on-site to the approximate limits of construction as shown on the plans, except where activities outside of the limits are expressly authorized in the Contract Documents

4.05 RIRRC will provide an area for temporary construction office, parking, and storage of materials. Contractor shall coordinate the selection of these areas with RIRRC.

ARTICLE 5 BONDS AND INSURANCE

PERFORMANCE AND OTHER BONDS:

5.01 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. All Bonds shall be in the forms prescribed by Law or Regulation or by the Contract Documents and 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 Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an attorney-in-fact must be accompanied by a certified copy of the power of attorney or other proof of authority to act.

5.02 If the Surety on any Bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Rhode Island or it ceases to meet the requirements of paragraph 5.01. Contractor shall within five days thereafter substitute another Bond and Surety, both of which must meet the standards of paragraph 5.01 and be acceptable to RIRRC.

Contractor's LIABILITY INSURANCE:

- 5.03 Contractor shall purchase and maintain such comprehensive general liability and other insurance as is satisfactory to the RIRRC and as is appropriate for the Work being performed and furnished and as will provide protection from any claim set forth below which may arise out of or result from Contractor's performance and furnishing of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed or furnished by Contractor, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:
- 5.03.1 Claims under workers' compensation, disability benefits and other similar employee benefits acts;
 - 5.03.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 5.03.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 5.03.4 Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or (b) by any other person for any other reason;
 - 5.03.5 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;
 - 5.03.6 Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and
 - 5.03.7 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.
 - 5.03.8 The insurance required by this paragraph 5.03 shall include the specific coverage and be written for not less than the limits of liability and coverage provided below or required by law, whichever is greater:

- a. Workers' Compensation Insurance to cover full liability under the Workers' Compensation laws at the statutory limits required in by the State of Rhode Island, including coverage for the benefits provided under United States Longshoremen's & Harbor Workers' Act, if applicable.
- b. Employers' Liability Insurance (with limits of not less than \$1,000,000 per accident for Bodily Injury by accident, \$1,000,000 each employee - by disease and \$1,000,000 policy limit - by disease), covering operations of the Contractor.
- c. Commercial General Liability ("CGL") Insurance for operations of the Contractor with coverage written at least as broad as that of the standard Commercial General Liability Insurance policy (Occurrence Form) including hazards of operations (including explosions, collapse, and underground operations), with contractual liability coverage and personal injury liability coverage for claims arising out of this Agreement. The insurance required by this subsection (c) shall be written for not less than limits of liability as follows: \$2,000,000 each occurrence for bodily injury and property damage; \$5,000,000 general aggregate; and \$5,000,000 aggregate products/completed operations. CGL coverage shall be written on ISO Occurrence Form CG 00 01 (10 01) or a substitute form providing equivalent coverage and shall cover liability arising from premises, operations, independent contractors, products, completed operations, and personal and advertising injury.
- d. Automobile Liability Insurance covering all owned non-owned and hired automobiles, trucks, and trailers of the Contractor. Such insurance coverage shall be written at least as broad as that of the Standard Commercial Automobile Liability policy and shall be written for not less than a \$1,000,000 limit of liability per occurrence for bodily injury and property damage.
- e. Should aircraft or watercraft of any kind be used by Contractor, any tier of Subcontractor or by anyone else on their behalf, Contractor or Subcontractor shall maintain or cause the operator of the aircraft/watercraft to maintain Aircraft/Watercraft Public Liability Insurance including bodily injury, property damage, and passenger liability, with respect to any aircraft/watercraft owner, used, operated or hired in connection with the Work the Contractor, Subcontractor or anyone else written for not less than a \$5,000,000 limit of liability per occurrence for bodily injury and property damage.

- f. Should the performance of this Agreement require the Contractor, any tier of subcontractor or anyone else on their behalf to conduct any activities in the vicinity of a railroad, the Contractor or Subcontractor shall maintain such Railroad Protective Insurance as may be required by the affected railroad written for not less than the limits required by such railroad. The Contractor's Railroad Protective Insurance shall be written on the policy form required by the affected railroad.
- g. Contractor's Pollution Liability insurance with limits of at least \$1,000,000 per occurrence/annual aggregate covering on-site and off-site bodily injury and loss of, damage to, or loss of use of property, directly or indirectly arising out of the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gas, waste materials or other irritants, contaminants or pollutants into or upon the land, the atmosphere or any water course or body of water, whether it be gradual or sudden and accidental, including defense and clean-up costs.
- h. Excess or Umbrella Liability Insurance following form and with coverage written at least as broad as those of the primary policies required by this Subsection 5.03.8 (b), (c), (d) and (e) above and written for not less than a \$5,000,000 limit of liability per occurrence; provided that if the Contract Price exceeds \$10,000,000 then the minimum coverage limit for Excess or Umbrella coverage shall be \$10,000,000.
- i. Owner's Protective Liability Insurance written in the name of the RIRRC, its employees, servants and agents, from any liability which might be incurred against them as a result of any operations of the Contractor or his/her Subcontractors or their employees. Such insurance shall provide for a limit of not less than \$5,000,000 for all damages arising out of bodily injuries to or death of one or more persons in any one accident; and not less than \$5,000,000 for all damages arising out of injury to or destruction of property in any one accident and subject to that limit per accident, a total (or aggregate) limit of not less than \$5,000,000 for all damages arising out of injury to or destruction of property during the policy period.

5.03.9 Satisfactory certificate(s) of such insurance, as listed in 5.03.8 a. through d. shall be filed with the RIRRC prior to the Effective Date of the Agreement.

- 5.03.10 **All certificate(s) must be currently dated and shall name the RIRRC. Project Manager, Engineer, and any other consultants to RIRRC, and their respective directors, officers, employees and agents as additional insureds for Commercial General Liability Insurance, Pollution Liability Insurance, and Excess or Umbrella Insurance as required above.**
- 5.03.11 Contractor shall provide additional insured status using ISO endorsement CG 20 10 (11/85 edition) or (ii) endorsements CG 20 33 (10/01 edition) AND CG 20 37 (10/01 edition) or CG 20 10 (10/01 edition) AND CG 20 37 (10/01 edition) or an endorsement providing equivalent coverage to the additional insureds. Non-ISO endorsements must provide coverage equivalent to ISO endorsements and be approved by RIRRC. Such insurance shall by specific endorsement be deemed to be primary insurance to any similar insurance the RIRRC or any additional insured may obtain for its own benefit which shall be excess or secondary but not contributing insurance. This insurance for the additional insureds shall be as broad as the coverage provided for the named insured Contractor. If the Commercial General Liability or Excess Umbrella coverage contains a General Aggregate Limit, such General Aggregate Limit for each shall apply separately to this Project. In the event Contractor has in force any insurance with coverages broader and/or limits higher than the minimum coverage amounts specified in this Section 5.03 then: (a) such broader coverages and higher limits shall insure and be available to all additional insureds and (b) this Contract shall be deemed to require such broader coverages and higher limits. The Excess Umbrella insurance required by this Section 5.03, and any other insurance required by this Agreement which is furnished via an excess policy form, shall provide that (x) it covers any party as an additional insured who qualifies as such on the underlying insurance and follows form for such additional insured coverage, and (y) the coverage afforded to such additional insured is primary and non-contributing to any of the additional insured's other insurance, whether such other insurance be primary, excess/umbrella, self-insured, or on any other basis. Each such policy obtained by the Contractor shall provide that the insurer shall defend any suit against the RIRRC, its officers, agents, or employees even if such suit is frivolous or fraudulent, so long as such suit results from the Work of Contractor. A copy of each Additional Insured endorsement obtained by Contractor shall be attached to the Certificate of Insurance provided by Contractor. The General Commercial Liability and Umbrella Excess policies obtained by the Contractor shall not contain exclusions for liability assumed under contract for liability imposed by reason of statute or law.

- 5.03.12 The commercial general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall 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 RIRRC by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing or replacing Defective Work in accordance with paragraph 13.12. Failure to maintain the insurance required shall be cause for immediate termination of the Agreement by the RIRRC.
- 5.03.13 In addition, Contractor shall maintain such completed operations insurance for at least one (1) year after the final payment and furnish RIRRC with evidence of continuation of such insurance at final payment and one year thereafter.

Contractual Liability Insurance:

- 5.04 The comprehensive general liability insurance required by paragraph 5.03 will include contractual liability insurance applicable to Contractor's obligations under paragraphs 6.30 and 6.31.

Owner's Liability Insurance:

- 5.05 RIRRC shall be responsible for purchasing and maintaining RIRRC's own liability insurance and, at RIRRC's option, may purchase and maintain such insurance as will protect RIRRC against claims which may arise from its activities under the Contract Documents.

Property Insurance:

- 5.06 Unless otherwise provided in paragraph 5.03, RIRRC shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in paragraph 5.03 or required by Laws and Regulations). This insurance shall include the interest of RIRRC, Contractor, Subcontractor, Engineer and Engineer's consultants in the Work, all of whom shall be listed as insurers or additional insured parties, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in paragraph 5.03, and shall include damages, losses and expenses arising 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). If not covered under the "all risk" insurance or otherwise provided in paragraph 5.03, Contractor shall purchase and maintain similar property insurance on portions of the Work stored on or off the site or in transit when such portions of the Work are to be included in an application for payment.
- 5.07 NOT USED.
- 5.08 All the policies of insurance for the certificates or other evidence thereof required to be purchased and maintained by RIRRC in accordance with paragraphs 5.05 and 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 Contractor by certified mail and will contain waiver provisions in accordance with paragraph 5.11.2.
- 5.09 The risk of loss, within the deductible amount will be borne by Contractor, Subcontractor 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.
The Deductible amounts are estimated as follows:
- | | |
|---|----------|
| - A property limit of \$1,000,000 and under | \$5,000 |
| - A property limit of \$5,000,000 | \$10,000 |
| - A property limit of \$10,000,000 | \$25,000 |
| - Over \$10,000,000 | \$50,000 |
- 5.10 If Contractor requests in writing that other special insurance be included in the property insurance policy, RIRRC 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, RIRRC shall in writing advise Contractor whether or not such other insurance has been procured by RIRRC.

5.11 Waiver of Subrogation:

5.11.1 RIRRC and Contractor waive all rights of subrogation against each other for all losses and damages caused by any of the perils covered by the policies of insurance provided in response to paragraph 5.06 and any other property insurance applicable to the Work, and also waive all such rights against Subcontractors, Engineer, Engineer's consultants and all other parties named as insured in such policies for losses and damages so caused. As required by paragraph 6.11, each subcontract between Contractor and a Subcontractor will contain similar waiver provisions by the Subcontractor in favor of RIRRC, Contractor, Engineer, Engineer's consultants and all other parties named as insured. None of the above waivers shall extend to the rights that and of the insured parties may have to the proceeds of insurance held by RIRRC as trustee or otherwise payable under any policy so issued.

5.11.2 RIRRC and Contractor intend that any policies provided under paragraph 5.05 and 5.06 shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any of the parties named as insured or additional insured, and if the insurers require separate waiver forms to be signed by Engineer or Engineer's consultant, RIRRC shall obtain the same; if such waiver forms are required of any Subcontractor, Contractor will obtain the same.

Receipt and Application of Proceeds:

5.12 Any insured loss under the policies of insurance required by paragraphs 5.05 and 5.06 will be adjusted with RIRRC and made payable to RIRRC in good faith for the benefit of the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. RIRRC 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.

- 5.13 RIRRC, acting in good faith, shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to RIRRC's exercise of this power. If such objection be made, RIRRC shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach.

Acceptance of Insurance:

- 5.14 If, at any time, RIRRC 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 paragraph 5.03 and 5.04 on the basis of its not complying with the Contract Documents, RIRRC shall notify Contractor in writing. If Contractor has any objection to the coverage afforded by or other provisions of the policies of insurance required to be purchased and maintained by RIRRC in accordance with paragraphs 5.05 and 5.06 on the basis of their not complying with the Contract Documents, Contractor shall notify RIRRC in writing thereof within ten days of the date of delivery of such certificates to Contractor in accordance with paragraph 2.07. RIRRC and Contractor shall each provide to the other such additional information in respect of insurance provided by each as the other may reasonably request. Failure by Contractor to give any such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the other as complying with the Contract Documents.

Partial Utilization - Property Insurance:

- 5.15 If RIRRC finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all of the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10 providing that no such use or occupancy shall commence before the insurers who provided the property insurance have acknowledged notice thereof and in writing effected the 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 lapse on account of any such partial use or occupancy.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendent:

- 6.01 Contractor shall supervise 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 others in the

design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents, unless they are changed or modified by the Contractor. Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.

- 6.02 **Contractor shall keep on the Work Site at all times during its progress a competent Construction Superintendent, who shall not be replaced without written notice to RIRRC 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 the Construction Superintendent will be as binding as if given to Contractor.

Labor, Materials and Equipment:

- 6.03 Contractor shall provide competent, suitable, qualified and licensed personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the site. Contractor is hereby alerted that time of completion is of the utmost importance.
- 6.04 Unless otherwise specified in DIVISION 1 - GENERAL REQUIREMENTS, Contractor shall furnish and assume full responsibility for all 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 furnishing, performance, testing, start-up and completion of the Work.
- 6.05 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by Project Manager or Engineer, Contractor shall furnish satisfactory evidence including reports of required test(s) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to RIRRC, or any of RIRRC's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.12 or 9.15.

Adjusting Progress Schedule:

6.06 Contractor shall, from time to time, submit to Project Manager for review, adjustments in the construction schedule, submitted per 2.06.1 and/or 2.09, to reflect the impact thereon of new developments; these adjustments will conform generally to the progress schedules then in effect and additionally will comply with any provisions of DIVISION 1 - GENERAL REQUIREMENTS applicable thereto. Acceptance or acknowledgement of these submissions does not constitute an approved change in Contract Price or Contract Time. Any request for an increase in Contract Price or Contract Time must follow the procedures outlined in Section 00 72 00 Articles 11 and 12.

6.07 Substitutes or "Or-Equal" Items:

6.07.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by Project Manager or Engineer if sufficient information is submitted by Contractor to allow Project Manager or Engineer to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by Project Manager or Engineer will include the following as supplemented in DIVISION 1 - GENERAL REQUIREMENTS. Requests for review of substitute items or material and equipment will not be accepted by RIRRC and Engineer from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall make written application to RIRRC and Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice Contractor's achievement of substantial completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with RIRRC for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject of payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will

result directly or indirectly from acceptance of such substitute, including cost of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by Project Manager or Engineer in evaluating the proposed substitute. Project Manager or Engineer may require Contractor to furnish at Contractor's expense additional data about the proposed substitute.

6.07.2 If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to Project Manager and Engineer, if Contractor submits sufficient information to allow Project Manager and Engineer to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for submittal by Contractor and for review by Project Manager and Engineer will be similar to that provided in paragraph 6.07.1 as applied by Project Manager and Engineer and as may be supplemented in DIVISION 1 - GENERAL REQUIREMENTS.

6.07.3 Project Manager / Engineer will be allowed a reasonable time within which to evaluate each proposed substitute. RIRRC and Engineer will be the sole judges of acceptability, and no substitute will be ordered, installed or utilized without RIRRC's or Engineer's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. RIRRC may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute. Engineer will record time required by Engineer and Engineer's consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not Engineer or RIRRC accepts a proposed substitute, Contractor shall reimburse RIRRC for the charges of Engineer and Engineer's consultants for evaluating each proposed substitute.

Concerning Subcontractors, Suppliers and Others:

6.08 Contractor shall not employ any Subcontractor, Supplier or other person or organization, whether initially or as a substitute, against whom RIRRC or Engineer may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom Contractor has reasonable objection.

6.09 Contractor shall be fully responsible to RIRRC and Engineer for all acts and omissions of Subcontractors, Supplier and other persons and organizations performing or furnishing

any of the Work under a direct or indirect contract with Contractor just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between RIRRC or Engineer and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of RIRRC or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Law and Regulations.

- 6.10 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.
- 6.11 All Work performed for Contractor by a Subcontractor will be pursuant to an appropriate agreement between Contractor and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of RIRRC and Engineer and contains waiver provisions as required by paragraph 5.11. Contractor shall pay each Subcontractor a just share of any insurance money received by Contractor on account of losses under policies issued pursuant to paragraph 5.05 and 5.06.

Patent Fees and Royalties:

- 6.12 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 RIRRC 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 the Engineer in the Contract Documents. Contractor shall defend, indemnify and hold harmless RIRRC and Engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorney's fees and court costs) arising out of 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, and shall defend all such claims in connection with any alleged infringement of such rights.

Permits:

6.13 Contractor shall obtain and pay for any and all permits and licenses necessary to complete the Work. RIRRC 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. Contractor shall pay all charges of utility owners for connections to the Work and RIRRC shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.14 Laws and Regulations:

6.14.1 Contractor shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither RIRRC nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

6.14.2 If Contractor observes that the Specifications or Drawings are at variance with any Laws or Regulations, Contractor shall give RIRRC prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.04. If Contractor performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and does not provide notice to RIRRC, Contractor shall bear all costs arising therefrom; however it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

6.15 Taxes:

6.15.1 Pursuant to the RI Sales and Use Tax Act, the RIRRC is exempt from the payment of sales tax for the purchases of materials and supplies.

6.15.2 An exemption certificate, applying to materials purchased for and actually incorporated in the Work, may be obtained by the successful Contractor from the RIRRC.

Use of Premises:

- 6.16 Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents, and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises 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 land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against RIRRC or Engineer by any such owner or occupant because of the performance of the Work, Contractor shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by law. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold RIRRC and Engineer harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against RIRRC or Engineer to the extent based on a claim arising out of Contractor's performance of the Work.
- 6.17 During the progress of the Work, Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by RIRRC. Contractor shall restore to original condition all property not designated for alteration by the Contract Documents.
- 6.18 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.

Record Documents:

- 6.19 Contractor shall maintain in a safe place at the site, or alternative location if agreed to by RIRRC, one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.04) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to Project Manager or Engineer for reference. Upon completion of the Work,

these record documents, samples and Shop Drawings will be delivered to the RIRRC, if requested.

Safety and Protection:

- 6.20 Contractor shall be 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:
- 6.20.1 All employees on the Work and other persons and organizations who may be affected thereby;
- 6.20.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- 6.20.3 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. Contractor shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them 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 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 6.20 caused, directly or indirectly in whole or in part, by Contractor or any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish 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 the acts or omissions of RIRRC or Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor). Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all of the Work is completed and notice is issued to Contractor in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

- 6.21 Contractor shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be Contractor's Construction Superintendent unless otherwise designated in writing by Contractor to RIRRC.
- 6.22 The Contractor is required to develop a Safety Plan specifically for the work site taking into due consideration any potential hazardous materials the Contractor may encounter in performing the various features of the Work. Contractor is further required to meet with RIRRC's Safety Representative prior to the commencement of any Work to review Safety Plan and any site specific requirements.

Emergencies:

- 6.23 In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, Contractor, without special instruction or authorization from Engineer or RIRRC, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Project Manager / Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If Project Manager determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

Shop Drawings, Samples and other Submissions:

- 6.24 After checking and verifying all field measurements and after complying with applicable procedures specified in DIVISION 1 - GENERAL REQUIREMENTS, Contractor shall submit to Project Manager and Engineer for review and in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.06) and as so indicated in SECTION 01 33 00, all Shop Drawings and other Submissions, which will bear a stamp or specific written indication that Contractor has satisfied Contractor's responsibilities under the Contract Documents with respect to the review of the submission. All Submissions will be identified as Project Manager may require. The data shown on the Shop Drawings and other Submissions will be complete as specified below:
- 6.24.1 Before submission of each Shop Drawing or sample, Contractor shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

- 6.24.2 At the time of each Submission, Contractor shall give Project Manager and Engineer specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and in addition, shall cause a specific notation to be made on each Shop Drawing submitted for review and approval of each such variation.
- 6.25 Contractor shall also submit to Project Manager and Engineer for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that Contractor has satisfied Contractor's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which the samples are intended. All materials furnished by Contractor are subject to thorough inspections and tests by RIRRC, Engineer, and Project Manager.
- 6.26 Project Manager will have Engineer review and approve with reasonable promptness Shop Drawings and other Submissions, but Engineer's review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required 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. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings or other Submissions 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 submittal.
- 6.27 Engineer's review and approval of Shop Drawings and other Submissions 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 submission as required by paragraph 6.24.2 and Engineer has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing, sample or other approval; nor will any approval by Engineer relieve Contractor from responsibility for errors or omissions in the Shop Drawings or Submissions or from responsibility for having complied with the provisions of paragraph 6.24.1.
- 6.28 Where a Shop Drawing or other Submission is required by the Specifications, any related Work performed prior to Engineer's review and approval of the pertinent submission will be the sole expense and responsibility of Contractor. Any changes to the Work required

after review and approval of Shop Drawings or other Submission shall not constitute grounds for an increase in Contract Price or Contract Time.

Continuing the Work:

- 6.29 Contractor shall carry on the Work and adhere to the construction schedule during all disputes or disagreements with RIRRC. Contractor shall carry on the Work and adhere to the construction schedule during all reviews of Shop Drawings and other Submissions, request for information, design clarifications, or any other items between RIRRC and Contractor. No Work shall be delayed or postponed pending resolution of any disputes, disagreements, or clarifications, except as permitted by paragraph 15.05 or as Contractor and RIRRC may otherwise agree in writing.

Indemnification:

- 6.30 To the fullest extent permitted by Laws and Regulations Contractor shall defend, indemnify and hold harmless RIRRC and Engineer and their consultants, agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges for engineers, architects, attorneys and other professionals and court costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) 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 (b) is caused in whole or in part by any negligent act or omission of Contractor, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, or arises by or is imposed by Law and Regulations regardless of the negligence of any such party.
- 6.31 In any and all claims against RIRRC or Engineer or any of their consultants, agents or employees by any employees of Contractor, any Subcontractor, any person or organization employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.30 shall not be limited in any way by the amount or type of damages, compensation or benefits payable by or for Contractor or any such Subcontractor or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.
- 6.32 The obligations of Contractor under paragraph 6.30 shall not extend to the liability of the RIRRC, Engineer, Engineer's consultants, agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications.

ARTICLE 7 OTHER WORK

Related Work at Site:

- 7.01 RIRRC will perform certain work on site, have other work performed by utility owners or let other direct contracts therefore which shall contain General Conditions substantially similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to Contractor prior to starting any such other work; and, if Contractor believes that such performance will involve additional expense to Contractor or require additional time, and the parties are unable to agree as to the extent thereof, Contractor may make a claim therefor as provided in Articles 11 and 12.
- 7.02 Contractor shall afford each utility owner and other contractor who is a party of such a direct contract (or RIRRC, if RIRRC is performing the additional work with RIRRC'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 work, and shall properly connect and coordinate the Work with theirs. Contractor shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and 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 Project Manager and others whose work will be affected.
- 7.03 If any part of Contractor's Work depends for proper execution or results upon the work of any such other contractor or utility owner (or RIRRC), Contractor shall inspect and promptly report to Project Manager in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. Contractor's failure so to report will constitute an acceptance of the other work as fit and proper for integration with Contractor's Work except for latent or non-apparent defects and deficiencies in the other work.

Coordination:

- 7.04 If RIRRC contracts with others for the performance of other work at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in SECTION 00 73 00 - SUPPLEMENTAL CONDITIONS.
- 7.05 Coordination meetings will be required as indicated in SECTION 01 10 00 – SUMMARY OF WORK of the GENERAL REQUIREMENTS.

ARTICLE 8 OWNER'S RESPONSIBILITIES

- 8.01 RIRRC shall issue all communications to Contractor directly or through Project Manager or Engineer.
- 8.02 In case of termination of the employment of Project Manager or Engineer, RIRRC shall appoint an alternate Project Manager or Engineer, and whose status under the Contract Documents shall be that of the former. Any dispute in connection with such appointment shall be subject to the provisions of Article 16.
- 8.03 RIRRC shall furnish the data required of RIRRC under the Contract Documents promptly and shall make payments to Contractor promptly after they are due as provided in paragraphs 14.04 and 14.13.
- 8.04 RIRRC's duties in respect of provided lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.04. Paragraph 4.02 refers to RIRRC's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by Engineer in preparing the Drawing and Specifications.
- 8.05 RIRRC's responsibilities in respect of purchasing and maintaining liability and property insurance are set forth in paragraphs 5.05 through 5.08.
- 8.06 RIRRC shall execute approved Change Orders as indicated in paragraph 10.04.
- 8.07 RIRRC's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.04.
- 8.08 In connection with RIRRC's right to stop Work, suspend the Work, or terminate services of Contractor under certain circumstances, see Article 15 - Suspension of Work and Termination.

ARTICLE 9 ENGINEER'S STATUS DURING CONSTRUCTION

RIRRC's Representative:

- 9.01 RIRRC's representative will be RIRRC's Project Manager or Engineer, if no Project Manager has been assigned, during the construction period. If assigned, the duties and responsibilities and the limitations of authority of Representative as RIRRC's Engineer during construction will be set forth in the Contract Documents and shall not be extended without written consent of RIRRC.
- 9.02 Engineer will make visits to the site on a periodic basis (subject to RIRRC's authorization) to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will keep RIRRC informed of the progress of the Work and will endeavor to guard RIRRC against defects and deficiencies in the Work.
- 9.03 Project Manager or Engineer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as they may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If Contractor believes that written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, Contractor may make a claim therefore as provided in Article 11 or 12.

Authorized Variations in Work:

- 9.04 Project Manager or 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 Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on RIRRC, and also on Contractor who shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time, Contractor shall immediately notify RIRRC in writing before undertaking the work. If the Parties are unable to agree as to the amount or extent thereof, RIRRC may direct Contractor to perform the work and Contractor may make a claim therefore as provided in Article 11 or 12.

Rejecting Defective Work:

- 9.05 Project Manager or Engineer will have authority to disapprove or reject Work which they believe to be Defective, and will also have authority to require special inspection or testing of the Work, at Contractor's expense, as provided in paragraphs 13.08 and 13.09, whether or not the Work is fabricated, installed or completed.
- 9.06 In connection with Engineer's responsibility for Shop Drawings and samples, see paragraphs 6.23 through 6.29 inclusive.
- 9.07 In connection with Project Manager or Engineer's responsibilities as to Change Orders, see Articles 10, 11, and 12.
- 9.08 In connection with Project Manager or Engineer's responsibilities in respect of application for payment see Article 14.

Determinations for Lump Sum and Unit Prices for Modifications Made by Change Orders:

- 9.09 Project Manager and/or Engineer will determine the actual quantities and classifications of Lump Sum and Unit Price Work performed by Contractor as a result of a Change Order. Project Manager and/or Engineer will review with Contractor, preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an application for payment or otherwise). Written decisions thereon will be final and binding upon RIRRC and Contractor, unless, within ten days after the date of any such decision, the Contractor delivers to the other party to the Agreement and to Project Manager / Engineer written notice of intention to appeal such a decision, or request that costs be computed by actual cost as outlined in Article 11.

Decisions on Disputes:

- 9.10 Project Manager, with the assistance of the 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 matter relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Time will be referred initially to Project Manager in writing with a request for a formal decision in accordance with this paragraph, which the Project Manager will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to the Project Manager and the other party to the Agreement promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to the Project Manager and the other party

within sixty days after such occurrence unless the Project Manager allows an additional period of time to ascertain more accurate data in support of the claim.

9.11 Not used

Limitations on Project Manager / Engineer's Responsibilities:

9.12 Neither Project Manager's / Engineer's authority to act under this Article 9 or elsewhere in the Contract Documents, nor any decision made by Project Manager / Engineer in good faith either to exercise or not exercise such authority, shall give rise to any duty or responsibility of Project Manager / Engineer to Contractor, any Subcontractor, any Supplier or any other person or organization performing any of the Work, or to any Surety for any of them.

9.13 Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," or "satisfactory," or terms of like effect or import are used to describe a requirement, direction, review or judgment of Project Manager / Engineer as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term of adjective shall not be effective to assign to Project Manager / Engineer any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.14 or 9.15.

9.14 Project Manager / Engineer will not be responsible for Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and Project Manager / Engineer will not be responsible for Contractor's failure to perform or to furnish Work in accordance with the Contract Documents.

9.15 Project Manager / Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

ARTICLE 10 CHANGES IN THE WORK

10.01 Without invalidating the Agreement and without notice to any Surety, RIRRC may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Written Amendment, a Change Order, or a Work Directive Change. 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 Document (except as otherwise specifically provided).

- 10.02 If RIRRC and Contractor are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Directive Change, a claim may be made therefore as provided in Article 11 or 12.
- 10.03 Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraph 3.04 and 3.05 except in the case of an emergency as provided in paragraph 6.22 and except in the case of uncovering Work as provided in paragraph 13.09.
- 10.04 RIRRC and Contractor shall execute appropriate Change Orders (or Written Amendments) covering:
- 10.04.1 Changes in the Work which are ordered by RIRRC pursuant to paragraph 10.01 or are required because of acceptance of Defective Work under paragraph 13.13 or correcting Defective Work under paragraph 13.14, or are agreed to be the parties;
- 10.04.2 Changes in the Contract Price or Contract Time which are agreed to by the parties; and
- 10.04.3 Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by the Project Manager/Engineer pursuant to paragraph 9.09; 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 6.29.
- 10.05 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 Time) 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, and the amount of each applicable Bond will be adjusted accordingly.

10.06 CHANGES IN THE CONTRACT

10.06.1 Right to Change. The Project Manager/Engineer reserves the right to make changes in the Contract at any time during the progress of the Work as are necessary to satisfactorily complete the Project. Such changes shall not invalidate the Contract nor release the Surety. The Contractor agrees to perform the changed work as directed by the Project Manager/Engineer. Any costs applicable to such changes will be paid for by the execution of an appropriate Contract Addendum.

10.06.2 Causes for Changes. Changes in the Contract may result from any of the following causes:

- a. Differing site conditions, except those listed in paragraphs 4.02.1.1 and 4.02.1.2
- b. Alterations in the Plans or Details as described in paragraph 10.08.
- c. Extra or unforeseen work for which there is no item of Work in the Bid.
- d. Suspension of the Work for any reason.
- e. Significant changes in the character of the Work.

10.07 DIFFERING SITE CONDITIONS. During the progress of the Work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the Contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work provided for in the Contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected Work is performed.

10.07.1 Upon written notification, the Project Manager/Engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any Work under the Contract, an adjustment, excluding anticipated profits, may be made and the Contract modified in writing accordingly. The Project Manager/Engineer will notify the Contractor of the determination whether or not an adjustment of the Contract is warranted.

- 10.07.2 No Contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice and proper justifications.
- 10.07.3 No Contract adjustment will be allowed under this clause for any effects caused on unchanged Work.
- 10.08 ALTERATIONS IN THE PLANS OR DETAILS. The Project Manager may order changes in the Plans or Details, increase, reduce, or eliminate any Contract Work item deemed necessary to satisfactorily complete the Project. Should such alterations in the Contract result in changes in the quantities of Work to be performed, the Contractor shall complete such altered quantities in the same manner prescribed for the corresponding unaltered quantities. Unless otherwise provided for under Subsection 10.11; such altered work shall be paid for at the same unit prices as for the corresponding unaltered items of Work.
- 10.08.1 Prefabricated Materials. The Project Manager may find it necessary to decrease or eliminate items of Work that involve prefabricated materials which are not considered stock commercial items. In the event fabrication of such materials was started or completed before the Contractor is advised of the decrease or elimination of the items in question, the RIRRC may:
- a. Upon verification, reimburse the Contractor for the fabrication cost, including material cost less salvage value; or
 - b. Instruct the Contractor to have the fabricated material delivered to the project for subsequent use by the RIRRC on other work. Payment for such material will be made in accordance with Article 14 PAYMENTS TO CONTRACTOR AND COMPLETION.
- 10.09 EXTRA WORK. The Contractor shall perform extra work, for which there is no price included in the Contract, whenever it is deemed necessary or desirable to complete the extra work as contemplated. Such extra work shall be performed in accordance with the Specifications and as directed, and will be paid for as provided under Article 11 CHANGE OF CONTRACT PRICE.
- 10.10 SUSPENSIONS OF WORK ORDERED BY THE PROJECT MANAGER. If the performance of all or any portion of the Work is suspended or delayed by the Project Manager in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes that additional compensation and/or Contract time is due as a result of such suspension or delay, the Contractor shall submit to the Project Manager in writing a request for adjustment

within seven calendar days of receipt of the notice to resume the Work. This does not apply to any suspensions made in accordance with Section 00 72 00 – Article 13.10 or Section 00 73 00 – Article 11.03. The request shall set forth the reasons and support for such adjustment.

10.10.1 Upon receipt, the Project Manager will evaluate the Contractor's request. If the Project Manager agrees that the cost and/or time required for the performance of the Contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers or subcontractors at any approved tier, and not caused by weather, the RIRRC will make an adjustment for actual or estimated direct costs (excluding profit) and modify the Contract in writing accordingly. The Contractor will be notified of the Project Manager's determination whether or not an adjustment of the Contract is warranted.

10.10.2 No Contract adjustment will be allowed unless the Contractor has submitted the request for adjustment within the time prescribed.

10.10.3 No Contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by another cause, or for which an adjustment is provided for or excluded under any other term or condition of this Contract.

10.11 SIGNIFICANT CHANGES IN THE CHARACTER OF THE WORK. The Project Manager reserves the right to make in writing at any time during the Work, such changes in quantities and such alterations in the Work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the Contract nor release the surety, and the Contractor agrees to perform the work as altered.

10.11.1 If the alterations or changes in quantities significantly change the character of the Work under the Contract, whether such alterations or changes are in themselves significant changes to the character of the Work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profits, will be made to the Contract. The basis for the adjustment shall be agreed upon prior to the performance of the change in the Work.

10.11.2 If the alterations or changes in quantities do not significantly change the character of the Work to be performed under the Contract, the altered work will be paid for as provided elsewhere in the Contract.

10.11.3 Circumstances for Significant Change. The term "significant change" shall be construed to apply only to the following circumstances:

- a. When the character of the Work as altered differs materially in kind or nature from that involved or included in the original proposed construction or;
- b. When a Major Item of Work is increased in excess of 125-percent or decreased below 75-percent of the original Contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125-percent of original Contract item quantity, or in case of a decrease below 75-percent, to the actual amount of Work performed.

ARTICLE 11 CHANGE OF CONTRACT PRICE

- 11.01 The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at its expense without change in the Contract Price.
- 11.02 The Contract Price may only be changed by a Change Order or by a Written Amendment signed by the RIRRC. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to the Project Manager/Engineer promptly (but in no event later than ten calendar days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within thirty calendar days after such occurrence (unless Project Manager allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by Project Manager/Engineer in accordance with paragraph 9.09 if RIRRC and Contractor cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph.

11.03 The value of any work covered by a Change Order shall be determined in one of the following ways:

11.03.1 Contract unit prices.

11.03.2 Unit prices agreed upon in the order authorizing the extra work.

11.03.3 An agreed upon lump sum amount.

11.03.4 If directed by the RIRRC, on a time and materials basis to be compensated in the following manner:

a. Labor/Benefits/Profit and Overhead.

(1) Labor. For all labor and foremen in direct charge of the specific operations, the Contractor shall receive the rate of wage actually paid as shown by its certified payroll, which rate shall be at least the prevailing rate of wage(or scale), for each and every hour that said labor and foremen are actually engaged in the work. Should other work be ongoing for which foreman are actively engaged, their hours shall be prorated and documented accordingly as assigned to the additional work.

No part of the salary or expenses of anyone connected with the Contractor's forces above the grade of foreman, and having general supervision of the work, will be included in the labor item as specified above.

The Project Manager, in consultation with the Engineer, reserves the right to determine the number and type of labor employed; plus:

(2) Benefits: The Contractor shall receive the actual costs paid to, or on behalf of, workers by reason of subsistence, health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work; plus

(3) Profit and Overhead: An amount not to exceed 15-percent of the sum of the above item may also be paid to the Contractor.

- b. Bond, Insurance, and Tax. For general commercial liability insurance premiums, workers' compensation insurance premiums, unemployment insurance contributions, and social security taxes incurred on time and materials work, the Contractor shall receive the actual cost, to which cost a surcharge of up to 4-percent may be added. The Contractor shall furnish satisfactory evidence of the rate or rates paid for such bonds, insurance and taxes.
 - c. Materials. For materials accepted by the Project Manager and used solely in the time and materials work, the Contractor shall receive the actual cost of such materials delivered to the site, including transportation charges paid (exclusive of-machinery rentals as hereinafter set forth)to which cost a mark-up for overhead and profit of up to 15-percent may be added. The Contractor will not be reimbursed for any penalty or carrying charge incurred due to late or delayed payment for materials used in the work.
 - d. Equipment. For any machinery or special equipment that is required for purpose of additional work not contemplated in the Contract (excluding small tools and supplies of less than \$2,000.00 replacement value) including transportation cost, the use of which has been authorized by the Project Manager, the Contractor shall receive either the "hourly rental rates" as prescribed herein by the RIRRC, or the actual documented cost plus a mark-up for overhead and profit of up to 10-percent of said actual documented cost, whichever is less. Under no circumstance shall the payment exceed the replacement cost of the equipment.
- (1) All rental rates shall include the estimated operating cost as indicated for that equipment in either the Rental Rate Blue Book or the Rental Rate Blue Book for Older Equipment. Operators' wages are not included in the estimated operating cost and are paid separately, except for certain specified equipment in which the operator's wages are included.

The "hourly rental rate" for an individual piece of equipment shall be determined by dividing the associated monthly rate, modified by the Rate Adjustment Tables, as contained in the Rental Rate Blue Book by one hundred seventy-six (176). There will be no adjustment to the hourly rate for the period of use.

- (2) For rented equipment, the cost shall be based on the actual documented cost plus an amount up to 10-percent of said actual documented cost, subject to the conditions set forth below. The actual documented cost shall consist of the paid invoice for rented equipment plus other documented operating costs (i.e. fuel, maintenance, repairs, etc.).

Actual documented costs (plus the up to 10-percent of said costs) shall not exceed the cost as calculated from the Rental Rate Blue Book or the Rental Rate Blue Book for Older Equipment. The Contractor shall submit documentation for both the hourly rental rates and actual documented costs to determine that the actual documented costs does not exceed the calculated rental rate costs. No percentage surcharges will be added to the "Blue Book" rates as prescribed herein for rented equipment.

For equipment which is already on the project, the rental period shall start when such equipment is ordered to perform extra work by the Project Manager, and shall continue until ordered to stop work, provided the work is continuous.

- (3) For equipment which has to be brought to the project specifically for use on time and materials work, the RIRRC will pay all loading and unloading costs, and all transportation costs to and from the Project, including assembling and dismantling, provided, however, that the cost of return transportation shall not exceed that of moving the equipment to the Project. Loading, unloading and transportation costs will not be paid if the equipment is used for work other than time and materials work while on the project. The rental period shall start at the time the equipment is ready for operation, and shall extend during the period of time the equipment is actually utilized on time and materials work, provided that the period from when the equipment is ready for operation to when it begins the time and materials work does not exceed two calendar days. The rental period shall end when the time and materials work is completed. The rental period for time and materials work shall be continuous to the extent practical.
- (4) All equipment, including trucks, shall, in the judgment of the Project Manager, be in good working condition and suitable for the purpose intended. The Project Manager reserves the right to determine the number of units of the various types of equipment

to be employed on time and material work. The manufacturer's model identification shall be the basis for identifying the type of equipment for payment purposes. Certification for the model year of the equipment will be required.

- e. Subcontracting. For time and materials work performed by a subcontractor, the Contractor shall accept as full payment therefore, an amount equal to the actual cost to the Contractor of such work performed by the subcontractor as determined by the Project Manager, plus a mark-up for overhead and profit of up to 10-percent of said cost.
- f. Miscellaneous. No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.
- g. Compensation. The Contractor's representative and the Project Manager or Engineer shall daily compare records of work completed on time and materials basis. The Contractor will then prepare the daily work sheets and said sheets will be signed by the Project Manager no later than noon of the next working day.
- h. Statements. No payment will be made for work performed on a time and materials basis until the Contractor has furnished the Project Manager with two copies of itemized statement of the cost of such work, incurred on a daily basis, and detailed as follows:
 - (1) Name, classification, date, daily hours, total hours, rate and extension for each laborer and foreman.
 - (2) Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 - (3) Quantities of materials, prices, and extensions.
 - (4) Transportation of materials.
 - (5) Cost of general commercial liability and workers' compensation insurance premiums, unemployment insurance contributions, and social security taxes.

Statements shall be accompanied and supported by certified payrolls, and receipted invoices for all materials used and transportation

charges. However, if materials used on the time and materials work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from its stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

Cash Allowances:

- 11.04 It is understood that Contractor has included in the Contract Price all allowances for Work in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to Project Manager. Contractor agrees that:
- 11.04.1 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
- 11.04.2 Contractor's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other related expenses have been included elsewhere in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Unit Price Work for Modifications by Change Orders:

- 11.05 Each unit price proposed by the Contractor 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.
- 11.06 ELIMINATED ITEMS. Should any items contained in the Contract be found unnecessary for the proper completion of the Work, the Project Manager may, consistent with Section 10.08 and upon written order to the Contractor, eliminate the items from the Contract, and the action shall not invalidate the Contract. When a Contractor is notified of the elimination of items, the Contractor will be reimbursed in accordance with Section 10.08.

ARTICLE 12 CHANGE OF CONTRACT TIME

- 12.01 The Contract Time may only be changed by a Change Order or a Written Amendment signed by the RIRRC. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to the Project Manager promptly (but in no event later than ten calendar days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within thirty calendar days after such occurrence (unless Project Manager allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the (i) claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event and (ii) a critical path schedule analysis that supports the Contractor's claimed adjustment to the Contract Time. All claims for adjustment in the Contract Time shall be determined by the Project Manager in accordance with paragraph 9.09 if RIRRC and Contractor cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph.
- 12.02 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of Contractor if a claim is made therefore and approved as provided in paragraph 12.01 but only to the extent the claimed delay actually extends the critical path for completion of the Work. Such delays shall include, but not be limited to, acts or neglect by RIRRC or others performing additional work as contemplated by Article 7, or to fires, floods, epidemics, abnormally severe weather conditions or acts of God. If abnormally severe weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were both abnormal and severe for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction with detail of same. The burden shall be on the Contractor to demonstrate actual impact to the critical path for completion of the Work within the Contract Time.
- 12.02.1 The RIRRC and Contractor agree that it is the intent of the Contract Documents that the Contractor shall have responsibility to achieve Final Completion of the Work within the Contract Time with an adequate work force, irrespective of any labor dispute (other than those of general applicability not directed at the Project, the Contractor or anyone for whom the Contractor is responsible), including picketing at or near the Project site, whether or not the Contractor is the primary employer involved in the labor dispute or a neutral employer, and whether or not the Contractor has a collective bargaining relationship with the union(s) involved in the labor dispute. Notwithstanding anything to the contrary in any of the Contract Documents, the Contractor acknowledges and agrees that no extension of

time shall be granted on account of a labor dispute (other than those of general applicability not directed at the Project, the Contractor, or anyone for whom the contractor is responsible).

12.03 All time limits stated in the Contract Documents are reflected in the expense of the Agreement. The provisions of this Article 12 shall not exclude recovery by the RIRRC for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by the Contractor.

12.04 COMPENSATION FOR PROJECT DELAYS.

12.04.1 Compensable Delays. The RIRRC will provide an equitable adjustment to the Contractor for those delays created by the RIRRC's wrongful acts or omissions in breach of the Agreement. Unless otherwise specified, the Contractor assumes the risk of damages from all other causes of delay.

The term "delay" shall be deemed to mean any event, action, force or factors which extends the Contractor's time of performance of the Contract. This Subsection is intended to cover all such events, actions, forces or factors, whether they be styled, "delay," "disruption," "interference," "impedance," "hindrance," or otherwise.

Strict compliance with the provisions of this Subsection will be an essential condition precedent to any equitable adjustments for delays.

12.04.2 Limitations of Costs. Only the additional costs associated with the following items will be recoverable by the Contractor as an equitable adjustment for delays.

- a. Labor expenses.
- b. Equipment costs.
- c. Costs of extended job-site overhead.

All costs claimed must be adequately documented when measuring additional equipment expenses (i.e., ownership expenses) arising as a direct result of a delay caused by the RIRRC. Use actual records kept in the usual course of business, and measure increased ownership expenses pursuant to generally accepted accounting principles.

12.04.3. Waiver of Liability. The parties agree that, in any adjustment for delay costs, the RIRRC will have no liability for the following items of damages or expense:

- a. Profit in excess of that provided herein;
- b. Loss of profit;
- c. Labor inefficiencies;
- d. Consequential damages, including but not limited to loss of bonding capacity, loss of bidding opportunities and insolvency;
- e. Indirect costs or expenses of any nature;
- f. Attorney's fees, claims preparation expenses or costs of litigation.

**ARTICLE 13 WARRANTY AND GUARANTEE; TEST AND INSPECTIONS;
CORRECTION REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

Warranty and Guarantee:

13.01 Contractor warrants and guarantees to RIRRC and Engineer that all Work will be in accordance with the Contract Documents and will not be Defective. Prompt notice of all defects shall be given to Contractor. All Defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.02 RIRRC's testing agencies, consultants, representatives, and governmental agencies with jurisdictional interest will have access to the Work at reasonable times for their observation, inspecting and testing. Contractor shall provide proper and safe conditions for such access.

Test and Inspections:

13.03 Contractor shall give Project Manager/Engineer timely notice of readiness of the Work for all required inspections, tests or approvals.

13.04 If Laws and Regulations of any public body having jurisdiction require any Work (or part thereof) to be inspected, tested or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish the Project Manager/Engineer

the required certificates of inspection, testing or approval. Contractor shall also be responsible for and shall pay all cost in connection with any inspection or testing required in connection with RIRRC/Engineer acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

- 13.05 All inspections, tests or approvals other than those required by Laws and Regulations of any public body having jurisdiction shall be performed by organizations acceptable to RIRRC.
- 13.06 If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of Project Manager/Engineer it must, if requested by Engineer, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Project Manager/Engineer timely notice of Contractor's intention to cover the same and Project Manager/Engineer has not acted with reasonable promptness in response to such notice.
- 13.07 Neither observations by the Project Manager/Engineer nor inspections, tests or approvals by others shall relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract Documents.

Uncovering Work:

- 13.08 If any Work is covered contrary to the written request of Project Manager/Engineer, it must, if requested by Engineer, be uncovered for Project Manager's/Engineer's observation and replaced at Contractor's expense.
- 13.09 Notwithstanding paragraph 13.06, if Project Manager/Engineer considers it necessary or advisable that covered Work be further observed by Project Manager/Engineer, the Contractor upon request shall uncover, expose or otherwise make available for observation, inspection or testing as Project Manager/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 bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing, and of satisfactory reconstruction (including but not limited to fees and charges for engineers, architects, attorneys and other professionals), and RIRRC shall be entitled to an appropriate decrease in the Contract Price; and if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in Article 11. 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 Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction; and, if the

parties are unable to agree as to the amount or extent thereof, Contractor may make a claim therefor as provided in Articles 11 and 12.

RIRRC May Stop the Work:

- 13.10 If the Work is Defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish appropriate information or perform the Work in such a way that the completed Work will conform to the Contract Documents, RIRRC may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of RIRRC to stop the Work shall not give rise to any duty on the part of RIRRC to exercise this right for the benefit of Contractor or any other party. Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by RIRRC of RIRRC's rights and remedies hereunder. Any and all costs associated with this delay shall be the sole responsibility of the Contractor.

Correction or Removal of Defective Work:

- 13.11 No materials shall be laid or used which are known or may be found to be in any way Defective or unfit. Notice shall be given to RIRRC and Project Manager of any Defective or imperfect material. If required by Project Manager or Engineer, Contractor shall promptly, as directed, either correct all Defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by Project Manager or Engineer, remove it from the site and replace it with non-Defective Work. Contractor shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby. Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by RIRRC of RIRRC's rights and remedies hereunder. Any and all costs associated with this delay shall be the sole responsibility of the Contractor.

One-Year Correction Period:

- 13.12 If within one year after the date of Substantial Completion, or such longer period of time as may be prescribed by Laws and 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 RIRRC and in accordance with RIRRC's written instructions, either correct such Defective Work, or if it has been rejected by RIRRC, remove it from the site and replace it with non-Defective Work. 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, RIRRC may have the Defective Work corrected, in accordance with

Section 13.14, or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by Contractor. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all of 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 Amendments.

Acceptance of Defective Work:

- 13.13 If, instead of requiring correction or removal and replacement of Defective Work, RIRRC, and prior to final payment, prefers to accept it, RIRRC may do so. In the event, Contractor shall bear all direct, indirect and consequential costs attributable to RIRRC's evaluation of and determination to accept such Defective Work (such costs to be reviewed by Project Manager as to reasonableness and to include but not be limited to fees and charge of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to Project Manager'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 RIRRC shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, RIRRC may make a claim therefor as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to RIRRC.

RIRRC May Correct Defective Work:

- 13.14 If Contractor fails within a reasonable time after written notice of Project Manager to proceed to correct Defective Work or to remove and replace rejected Work as required by Project Manager in accordance with paragraph 13.11, 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, RIRRC may, after seven days' written notice to Contractor, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph, RIRRC shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, RIRRC may: exclude Contractor from all or part of the site; take possession of all or part of the Work; 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 stored elsewhere for which RIRRC has paid Contractor. Contractor shall allow RIRRC, RIRRC's representatives, agents and employees such access to the site as may be necessary to enable RIRRC to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs to RIRRC in exercising such rights and remedies 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 RIRRC shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, RIRRC may make a claim therefor as provided in Article 11. Such direct, indirect and consequential costs will include but not be limited to delays, fees and charges of engineers, architects, attorneys and other professionals, all court charges for repair and replacement of work of others destroyed or damaged by correction, removal or replacement of Contractor's Defective Work. Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by RIRRC of RIRRC's rights and remedies hereunder.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.01 NOT USED.

Application for Progress Payment:

14.02 At least thirty (30) calendar days before each progress payment is scheduled (but not more often than once a month), Contractor shall submit to the Project Manager 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, including all Partial Release and Waiver of Liens. No payment will be made for materials delivered but not installed unless specifically allowed in the Measurement and Payment section.

Contractor's Warranty of Title:

14.03 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 RIRRC no later than the time of payment, free and clear of all Liens.

Review of Applications for Progress Payments:

14.04 Project Manager, in consultation with the Engineer, will, within ten business days after receipt of each Application for Payment, either indicate a recommendation of payment and present the Application to RIRRC, or return the Application to Contractor indicating in writing, Project Manager's reasons for refusing to recommend payment. In the latter case, Contractor may make necessary corrections and resubmit the Application. Within thirty (30) calendar days after presentation of the Application for Payment with Project Manager's recommendation, the amount recommended, less retainage, will be paid by

RIRRC to Contractor. The retainage shall be an amount equal to 5% of said estimate of the Work. Upon satisfactory completion of all Work required by the Contract, any amount retained will be paid to the Contractor.

- 14.05 Payment recommendation will be based on Project Manager's on-site observations of the Work in progress and the accompanying data and schedules that the Work has progressed to the point indicated; that to the best of Project Manager's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, and to any other qualifications stated in the recommendations); and that Contractor is entitled to payment of the amount recommended. However, by recommending any such payment Project Manager will not thereby be deemed to have represented that exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work or that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by RIRRC or RIRRC to withhold payment to Contractor.
- 14.06 Project Manager may refuse to recommend the whole or any part of any payment if, in Project Manager's/Engineer's opinion, it would be inappropriate or inaccurate to make such representations to RIRRC. Engineer may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in Project Manager's/Engineer's opinion to protect RIRRC from loss because:
- 14.06.1 The Work is Defective, or completed Work has been damaged and would require correction or replacement.
- 14.06.2 The Contract Price has been reduced by Written Amendment or Change Order.
- 14.06.3 RIRRC has been required to correct Defective Work or complete Work in accordance with paragraph 13.14, or
- 14.06.4 Project Manager/Engineer has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.1 through 15.02.9 inclusive.
- 14.07 RIRRC may refuse to make payment of the full amount because claims have been made against RIRRC on account of Contractor's performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling RIRRC to a set-off against the amount recommended, but RIRRC must give Contractor immediate written notice stating the reasons for such actions.

Substantial Completion:

- 14.08 When Contractor considers the entire Work ready for its intended use, Contractor shall notify RIRRC, Project Manager and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete and that do not interfere with the use or functionality of the Work) and request that Project Manager or Engineer issue a certificate of Substantial Completion. Within a reasonable time thereafter, RIRRC, Project Manager, Contractor and Engineer shall make an inspection of the Work to determine the status of completion. If RIRRC, Project Manager, or Engineer does not consider the Work substantially complete, Project Manager/Engineer will notify Contractor in writing giving the reasons therefore. If the Work is considered substantially complete, a certificate of Substantial Completion, which shall fix the date of Substantial Completion, will be provided to the Contractor. There shall be attached to the certificate a punch list of items to be completed or corrected before final payment, including all documents required by the Contract Documents to achieve Final Completion.
- 14.09 RIRRC shall have the right to exclude Contractor from the Work after the date of Substantial Completion, but RIRRC shall allow Contractor reasonable access to complete or correct items on the punch list.

Partial Utilization:

- 14.10 Use by RIRRC of any finished part of the Work, which has specifically been identified in the Contract Documents, or which RIRRC, Project Manager, Engineer and Contractor agree constitutes a separately functioning and useable part of the Work that can be used by RIRRC 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;
- 14.10.1 RIRRC at any time may request Contractor in writing to permit RIRRC to use any such part of the Work which RIRRC believes to be ready for its intended use and substantially complete. If Contractor agrees, Contractor will certify to the Project Manager and Engineer that said part of the Work is substantially complete and request Project Manager or Engineer to issue a certificate of Substantial Completion for that part of the Work. Contractor at any time may notify Project Manager and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Project Manager or Engineer to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after such request, RIRRC, Project Manager, Contractor and Engineer shall make an

inspection of that part of the Work to determine its status of completion. If Project Manager or Engineer does not consider that part of the Work to be substantially complete, they will notify RIRRC and Contractor in writing giving the reasons therefor. If Project Manager or Engineer considers that part of the Work to be substantially complete, the provisions of paragraph 14.08 and 14.09 will apply with respect to certification of Substantial Completion of that part of the division of responsibility in respect thereof and access thereto.

14.10.2 RIRRC may at any time request Contractor in writing to permit RIRRC to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be first sent to Engineer, if applicable, and within a reasonable time thereafter sent to the Contractor. Contractor, Project Manager, and Engineer shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If Contractor does not object in writing to RIRRC that such part of the Work is not ready for separate operation by RIRRC, Project Manager and Engineer will finalize the list of items to be completed or corrected and will deliver such list to RIRRC and Contractor together with a written recommendation as to the division of responsibilities pending final payment between RIRRC and Contractor with respect to security, operation, safety, maintenance, utilities, insurance, warranties, and guarantees for that part of the Work which will become binding upon RIRRC and Contractor at the time when RIRRC takes over such operation (unless they shall have otherwise agreed in writing and so informed Engineer). During such operation and prior to Substantial Completion of such part of the Work, RIRRC shall allow Contractor reasonable access to complete or correct items on said list and to complete other related Work.

14.10.3 No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of Article 5 in respect of property insurance.

Final Inspection:

- 14.11 Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Project Manager or Engineer 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 remedy such deficiencies.

Final Application for Payment:

- 14.12 After Contractor has completed all such corrections to the satisfaction of Project Manager and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents all as required by the Contract Documents, and after Project Manager has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to RIRRC) of all liens arising out of or filed in connection with the Work. In lieu thereof and as approved by RIRRC, Contractor may furnish receipts or releases in full; an affidavit of Contractor that the releases and receipts include all labor, services, material, and equipment bills, and other indebtedness connected with the Work for which RIRRC or RIRRC's property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, Contractor may furnish a Bond or other collateral satisfactory to RIRRC to indemnify RIRRC against any lien.

Final Payment and Acceptance:

- 14.13 If all Work, as required by the Contract Documents, has been completed and satisfactory to the RIRRC and Engineer, and Contractor's other obligations under the Contract Documents have been fulfilled, Project Manager will, within ten business days after receipt of the final Application for Payment, recommend payment and issue a certificate of Final Completion. Otherwise, Project Manager 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. Thirty days after presentation to RIRRC of the Application for Payment and accompanying documentation, in appropriate form and substance, and with Project Manager's recommendation and notice of acceptability, the payment recommended will become due and will be paid by RIRRC to Contractor.

- 14.14 NOT USED

Contractor's Continuing Obligation:

- 14.15 Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress to final payment, nor the issuance of a certificate of Substantial Completion, nor any payment by RIRRC to Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by RIRRC, nor any act of acceptance by RIRRC nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor any correction of Defective Work by RIRRC, will constitute an acceptance of Work not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 14.16).

Waiver of Claims:

- 14.16 The making and acceptance of final payment will constitute:
- 14.16.1 a waiver of all claims by RIRRC against Contractor, except claims arising from unsettled liens from Defective Work appearing after final inspection pursuant to paragraph 14.11 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by RIRRC of any rights in respect of Contractor's continuing obligations under the Contract Documents; and
 - 14.16.2 a waiver of all claims by Contractor against RIRRC other than those previously made in writing and still unsettled.

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

RIRRC May Suspend Work:

- 15.01 RIRRC may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than one hundred twenty (120) days by notice in writing to Contractor. Contractor shall resume the Work on the date specified by RIRRC. Contractor shall be allowed an extension of the Contract Time, directly attributable to any suspension of Work if the Contractor makes an approved claim therefore as provided in Articles 11 and 12.

RIRRC May Terminate:

- 15.02 Upon the occurrence of any one or more of the following events:

- 15.02.1 if Contractor commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if Contractor takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;
- 15.02.2 if a petition is filed against Contractor under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against Contractor under any other federal or state law in effect at the time relating to its bankruptcy or insolvency;
- 15.02.3 if Contractor makes a general assignment for the benefit of creditors;
- 15.02.4 if a trustee, receiver, custodian, or agent of Contractor is appointed under applicable law or under contract, whose appointment or authority to take charge of property of Contractor is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of Contractor's creditors;
- 15.02.5 if Contractor admits in writing an inability to pay its debts generally as they become due;
- 15.02.6 if Contractor persistently fails to perform the Work in accordance with the Contract Documents and to the satisfaction of RIRRC or Engineer (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 2.06.1 as revised from time to time by written Change Order);
- 15.02.7 if Contractor disregards Laws or Regulations of any public body having jurisdiction;
- 15.02.8 if Contractor disregards the authority of RIRRC, Project Manager, or Engineer or;
- 15.02.9 if Contractor otherwise violates in any material way any provisions of the Contract Documents.

RIRRC may, after giving Contractor (and the Surety, if there be one) seven calendar days' written notice and, to the extent permitted by Laws and Regulations, 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 RIRRC has paid Contractor but which are stored elsewhere, and finish the Work as RIRRC may deem necessary. 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 the direct, indirect, and consequential costs of completing the Work (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court costs) such excess will not be paid to Contractor. If such costs exceed such unpaid balance, Contractor shall pay the difference to RIRRC. Such costs incurred by RIRRC will be approved as to reasonableness by Engineer and incorporated in a Change Order, but when exercising any rights or remedies under this Article, RIRRC shall not be required to obtain the lowest price for the Work performed.

- 15.03 Where Contractor's services have been so terminated by RIRRC, the termination will not affect any rights or remedies of RIRRC against Contractor then existing or which may thereafter accrue. Any retention or payment or moneys due Contractor by RIRRC will not release Contractor from liability.
- 15.04 Upon seven calendar days' written notice to Contractor, RIRRC may, without cause and without prejudice to any other right or remedy, elect to stop the Work and terminate the Agreement. In such case, Contractor shall be paid for all Work executed and any expense sustained plus reasonable termination expenses (excluding any indirect and/or consequential damage, and provided that Contractor shall not be compensated for overhead or profit on the portion of the Work not completed).
- 15.05 If, after a notice of termination of Contractor's right to proceed under the provisions of this clause is provided, it is determined for any reason that Contractor was not in default under the provisions of this Article, or that the delay was excusable under the provisions of this Article, the rights and obligations of the parties shall be the same as if the notice of termination had been issued for the convenience of RIRRC, as otherwise provided herein.

Contractor May Stop Work or Terminate:

- 15.06 If, through no act or fault of Contractor, the Work is suspended for a period of more than one hundred twenty days by RIRRC or under an order of court or other public authority, or Project Manager fails to act on any Application for Payment within sixty days after it is submitted, or RIRRC fails for sixty days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven business days' written notice to RIRRC, terminate the Agreement and recover from RIRRC payment for all Work executed and any expense sustained plus reasonable termination expenses (excluding any indirect and/or consequential damages and provided that Contractor shall not be compensated for overhead or profit on the portion of the Work not completed). In addition and in lieu of terminating the Agreement, if RIRRC has failed to make any payment as provided above, Contractor may, upon seven business days' written notice to RIRRC, stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve Contractor of the obligation under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with RIRRC.

ARTICLE 16 CONTRACTUAL DISPUTES

- 16.01 All claims, disputes, and other matters in question arising out of or relating to this Contract or the performance or interpretation thereof shall be submitted to arbitration pursuant to the terms of Title 37, Chapter 16, of the Rhode Island General Laws, as amended.
- 16.02 Except as otherwise provided in this Agreement during resolution of any dispute under this Article, Contractor and RIRRC shall each continue to perform all of their respective obligations under the Agreement without interruption or slow down, provided that the undisputed portion of any disputed payment shall have been paid.

ARTICLE 17 MISCELLANEOUS

Giving Notice:

- 17.01 All notices under the Agreement or any provision of the Contract Documents, shall be in writing and shall be deemed to have been validly served if hand-delivered with receipt or if sent by registered or certified mail as of next day following the sending of the registered or certified mail, as follows: to the Corporation at its address and to the Contractor at its address, both noted in the Agreement.
- 17.02.1 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 State of Rhode Island, such Day will be omitted from the computation.

17.02.2 A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a Day.

17.02.3 A business day of twenty-four hours measured from 12:00 am to 11:59 pm on Monday through Friday shall constitute a Day. A day falling within Monday through Friday that is made a legal holiday by the law of the State of Rhode Island, shall not be considered a business day but rather a calendar day.

General:

17.03 Should RIRRC or Contractor suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 17.03 shall not be construed as a substitute for a waiver of the provisions of any applicable statute of limitations or repose.

17.04 The duties and obligations imposed by these GENERAL CONDITIONS and the rights and remedies available hereunder to the parties hereto, and in particular but without limitation, the warranties, guarantees, and obligations imposed upon Contractor by paragraph 6.30, 13.01, 13.12, 13.14, 14.03, and 15.02 and all of the rights and remedies available to RIRRC and Engineer thereunder, 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 and Regulations by special warranty or guarantee, or by other provisions of the Contract Documents. All representations, warranties, and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

****END OF SECTION****

SECTION 00 73 00
INDEX TO SUPPLEMENTAL CONDITIONS

ARTICLE	TITLE
1.	WORK TO BE ACCOMPLISHED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS
2.	CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES
3.	ADVERSE WEATHER
4.	FIRST AID TO INJURED
5.	CONFORMANCE WITH DIRECTIONS
6.	NOT USED
7.	COMPETENT HELP TO BE EMPLOYED
8.	STREETS TO BE KEPT OPEN
9.	LIGHTS, BARRIERS, FENCES, WATCHMEN AND INDEMNITY
10.	WORK OUTSIDE REGULAR HOURS
11.	WORK IN COLD AND INCLEMENT WEATHER
12.	BLASTING AND EXPLOSIVES
13.	TUNNELING NOT PERMITTED
14.	RESERVED MATERIALS
15.	LENGTH OF TRENCH TO BE OPENED, MAINTAINING PREMISES FREE FROM OBSTRUCTIONS, CROSSOVERS, DIRECTIONAL SIGNS AND LIGHTS
16.	NOT USED
17.	NOT USED
18.	NOT USED
19.	MATERIALS
20.	ORDERING LISTS

21. SANITARY REGULATIONS
22. SPIRITUOUS LIQUORS
23. FINISHING AND CLEANING UP
24. CLEAN-UP AT CONTRACOR'S EXPENSE
25. RIGHTS OF ACCESS
26. LOADING
27. CONTRACTOR TO LAY OUT HIS/HER OWN WORK
28. COMPLETENESS OF WORK
29. NOT USED
30. DUST CONTROL
31. CARE OF THE WORK
32. WORK BY OTHERS
33. FIRE PREVENTION AND PROTECTION
34. NOT USED
35. DAILY REPORTS
36. CERTIFICATES OF CONFORMANCE
37. TEMPORARY POWER AND LIGHT
38. ARCHAEOLOGICAL FINDS
39. NOT USED
40. TERMINATION FOR DEFAULT; DAMAGES FOR DELAY; TIME EXTENSIONS
41. CONTRACTOR QUALITY CONTROL

SECTION 00 73 00
SUPPLEMENTAL CONDITIONS

ARTICLE 1 WORK TO BE ACCOMPLISHED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS

- 1.01 The Work, during its progress and at its completion, shall conform to: the Contract Documents and to the directions given by RIRRC from time to time, subject to such modifications or additions as it shall determine to be necessary during the execution of the Work; and in no case will any Work be paid for in excess of such requirements.

ARTICLE 2 CONTRACTOR TO CHECK DIMENSIONS AND SCHEDULES

- 2.01 Contractor will be required to check all dimensions and quantities shown in the Contract Documents or schedules given to him by RIRRC, and shall notify Project Manager and RIRRC of all errors therein which it may discover by examining and checking the same. Contractor shall not take advantage of any error or omission in the Contract Documents. RIRRC will furnish all instructions should such error or omission be discovered, and Contractor shall carry out such instructions as if originally specified.

ARTICLE 3 ADVERSE WEATHER

- 3.01 Should named-storm warnings be issued, Contractor shall take every practicable precaution to minimize danger to persons, to the Work, and to adjacent property. These precautions shall include enclosing all openings, removing all loose materials, tools and/or equipment from exposed locations; removing or securing all floating equipment and materials; and removing or securing scaffolding and other temporary work.
- 3.02 Contractor shall take all precautions to prevent damage to the Work or equipment by high waters or by storms. Project Manager, with the approval of RIRRC, may prohibit the carrying out of any Work at any time when in its judgment, high waters or storm conditions are unfavorable or not suitable, or at any time, regardless of the weather, when proper precautions are not being taken to safeguard previously constructed work or work in progress.
- 3.03 In case of damage to areas outside the limits of work caused by the failure of Contractor to take adequate precautions against any weather event, Contractor shall repair or replace equipment damaged and shall make such efforts to clean up, repair, replace and return the areas to pre-storm conditions as RIRRC may require, at no additional expense to RIRRC.

ARTICLE 4 FIRST AID TO INJURED

- 4.01 Contractor shall keep in its office on site ready for immediate use, all articles necessary for giving first aid to injured persons. It shall also make arrangements for the immediate removal and hospital treatment of any persons injured on the Project who may require the same.

ARTICLE 5 CONFORMANCE WITH DIRECTIONS

- 5.01 Engineer may make alterations in the lines, grade, plan, form dimensions or materials of the Work, or any part thereof, either before or after the commencement of construction by means of a Field or Change Order. If such alterations diminish the quantity of work to be done, the deduction in the Contract Price will be determined by the Unit Price proposed by Contractor, and Contractor shall have no claim for damages or for anticipated profits on the Work that thus may be dispensed with. If the

alterations increase the quantity, such increase shall be paid for at the stipulated Unit Price.

ARTICLE 6 NOT USED

ARTICLE 7 COMPETENT HELP TO BE EMPLOYED

- 7.01 Contractor shall employ experienced foremen, craftsmen and other workmen competent in the Work in which they are to be engaged. All Work shall be accomplished by able, skilled and competent personnel. If any person employed on the Work by Contractor shall appear to be incompetent or unreliable in any way, he/she shall be discharged immediately upon the request of RIRRC and shall not again be employed on the Work.

ARTICLE 8 STREETS TO BE KEPT OPEN

- 8.01 Contractor shall at all times keep the public streets, roads on landfill property and driveways in which it may be at work open for pedestrian and vehicular traffic. Under no circumstances shall traffic on these routes be blocked or limited, unless approved by RIRRC.

ARTICLE 9 LIGHTS, BARRIERS, FENCES, WATCHMEN AND INDEMNITY

- 9.01 Contractor shall put up and maintain such barriers, fences, lighting and warning lights, danger warning signals and signs as will prevent accidents during the construction work, and protect the Work and insure the safety of all personnel and the public at all times and places; and Contractor shall defend, indemnify and save harmless Engineer, Project Manager, RIRRC and its agents, in every respect from any injury or damage whatsoever caused by an act, omission or neglect of Contractor or its agents, including any claims arising out of failure to erect and maintain sufficient railing or fencing. The fact that RIRRC may retain control of the premises, or that it or its agent may take action to erect or maintain railings or fences, shall not relieve Contractor's obligations hereunder.
- 9.02 Contractor shall furnish, maintain and use all necessary safety devices and safe practices in prosecution of the Work and to adopt, follow and maintain such additional safety measures as in the opinion of Project Manager with the approval of RIRRC are conducive to safe operation by Contractor. RIRRC shall have the right to order any or all work suspended where, in Project Manager's opinion, such work is not being carried on in a safe and proper manner, or where persons and property are not being properly protected or safeguarded and such work shall not be resumed until RIRRC's requirements have been met and RIRRC has directed that the Work be resumed. The Work required by the preceding paragraph shall be totally at Contractor's expense and shall not be grounds for an increase in Contract Price or an extension of Contract Time.
- 9.03 In addition to the above, when and as necessary, or when required by Project Manager, with the approval of RIRRC, Contractor shall post signs and employ watchmen, flagmen, or police officers for the direction of traffic at the site and for excluding at all times unauthorized persons from the Work, for which Contractor will not be paid additional compensation.

ARTICLE 10 WORK OUTSIDE REGULAR HOURS

- 10.01 Contractor will be permitted to work Monday through Friday 6:00 A.M. through 4:30 P.M. on RIRRC property. Saturday work will only be allowed with prior consent from the RIRRC within the time period of 6:00 AM to 12:00 PM. Work on Sundays, holidays, or extended work beyond the hours specified herein will not be permitted

without the consent of the RIRRC. The lighting, safety, and other facilities which are deemed necessary by RIRRC for performing such night work shall be provided by Contractor. Any work required as part of this Contract on a Saturday, Sunday or any legal holiday will not be grounds for an increase in Contract Price. Compensation for said work shall be considered as having been included in the prices stipulated for appropriate items of Work as listed in the Proposal. Contractor is alerted that all work must be completed by the project end date specified.

ARTICLE 11 WORK IN COLD AND INCLEMENT WEATHER

- 11.01 RIRRC, in consultation with Engineer, will determine when site conditions are unfavorable for work, and may order the Work or any portion of it suspended whenever, in its opinion, the conditions are not such as will insure first class work. In general, work shall be prosecuted throughout the Contract period; and Contractor will be expected to keep going, and employ labor, as continuously as possible.
- 11.02 All methods and materials used in the performance and for the protection of the Work in cold and inclement weather, shall be subject to the approval of RIRRC. Contractor shall take necessary precautions for protecting the Work from damage. The materials necessary to comply with the above requirements shall be considered to be included in the prices stipulated for the appropriate items of work, as listed in the Bid.
- 11.03 Should RIRRC stop the Work due to unfavorable conditions at the site, an appropriate adjustment in the Contract Time will be made. No adjustment in Contract Price will be made as a result of any temporary suspension of the Work due to unfavorable weather conditions at the site.

ARTICLE 12 BLASTING AND EXPLOSIVES

- 12.01 All rock excavation requiring blasting must be performed with the consent of RIRRC, utility companies present in the area of the Work, and the State Fire Marshall. CONTRACTOR may also have to contact Local officials as warranted.

ARTICLE 13 TUNNELING NOT PERMITTED

- 13.01 Tunneling will not be permitted without the consent of RIRRC.

ARTICLE 14 RESERVED MATERIALS

- 14.01 Materials found in the Work site suitable for any special use shall be reserved for that purpose. Where specifically permitted by RIRRC, Contractor may use in the various parts of the Work, without charge therefore, any materials taken from the project excavation. This condition does not apply to any pre-stockpiled materials that may be located within the project limits of work.

ARTICLE 15 LENGTH OF TRENCH TO BE OPENED, MAINTAINING PREMISES FREE FROM OBSTRUCTIONS, CROSSEVER, DIRECTIONAL SIGNS AND LIGHTS

- 15.01 The length of trench opened at any time, from the point where ground is being broken to completed backfill, and also the amount of space in streets or public and private lands occupied by equipment, trench, and supplies, shall not exceed the length or space considered reasonably necessary and expedient by Project Manager. As to the length of open trench or spaces for equipment, materials, supplies and other necessities, Project Manager will consider: the nature of the lands or streets where work is being done; types and methods of construction and equipment being used; inconvenience to the public or to private parties; possible dangers; and other proper matters. All work must

be constructed with a minimum of inconvenience and danger to the public and all other parties concerned.

- 15.02 Whenever any trench obstructs pedestrian and vehicular traffic in or to any public street, private driveway or property entrance, or on private property, Contractor shall take such means as may be necessary to maintain pedestrian and vehicular traffic and access. Until such times as the Work may have attained sufficient strength to support backfill, or if for any other reason, it is not expedient to backfill the trench immediately, Contractor shall construct and maintain suitable crossings and bridges to carry essential traffic in or to the street, driveway or property in question, as specified or directed.
- 15.03 Suitable signs, lights, and such items required by police authorities to direct traffic, shall be furnished and maintained by Contractor.
- 15.04 Contractor must keep streets and premises free from unnecessary obstructions, debris, and all other materials. Project Manager may, at any time, order all equipment, materials, surplus from excavations, debris and all other materials lying outside that length of working space, promptly removed. Should Contractor fail to remove such material within 24 hours after notice to remove the same, RIRRC may cause any part or all of such materials to be removed by such persons as it may employ, at Contractor's expense, and may deduct the costs thereof from payments which may be, or may become, due to Contractor under the Agreement. In special cases, where public safety urgently demands it, RIRRC may cause such materials to be removed without prior notice, at Contractor's expense.

ARTICLE 16 NOT USED

ARTICLE 17 INTERFERENCE WITH EXISTING UTILITIES AND STRUCTURES

ARTICLE 18 NOT USED

ARTICLE 19 MATERIALS

- 19.01 All materials furnished and used in the complete Work, shall be new, of best quality workmanship and design, and recognized as standard in good construction practices. Whenever a specification number or reference is given, the subsequent amendments (if any) shall be included. The standards set forth in the selection of materials and supplies are intended to conform with those standards adopted by RIRRC. Preference in manufacture shall be given to adopted standards, and Contractor shall further familiarize itself with the requirements of RIRRC when the occasion or choice of materials or supplies so demands.

ARTICLE 20 ORDERING LISTS

- 20.01 All ordering lists shall be submitted by Contractor to RIRRC upon request detailing dates, quantities, and materials within the order.

ARTICLE 21 SANITARY REGULATIONS

- 21.01 Adequate sanitary conveniences for use by workmen on the premises, properly secluded from public observation, shall be provided and maintained by Contractor in accordance with the requirements of local and State Health authorities. Under no circumstances shall sanitary wastes be allowed to flow on the surface of the ground or be discharged directly or indirectly into any body of water.
- 21.02 Contractor shall rigorously prohibit the committing of nuisances upon the lanes or rights-of-way of RIRRC, about the Work or upon adjacent public or private property.

- 21.03 The cost of the sanitary conveniences and maintaining same will not be paid for separately, but compensation will be considered to be included in the prices stipulated for the appropriate items of work as listed in the Bid.

ARTICLE 22 DRUG FREE WORKPLACE

- 22.01 Contractor acknowledges that RIRRC prohibits the use, possession, and/or distribution of firearms, alcoholic beverages and/or illegal drugs by personnel while on the premises of RIRRC and/or while performing any services for RIRRC or its affiliates and subsidiaries. Personal vehicles and equipment are subject to search upon entering or leaving and while on the premises. This prohibition includes being under the influence of alcohol or illegal drugs while on the premises of Contractor while performing any services for RIRRC. Contractor will inform its personnel and its agents that this policy is in full force and effect and will ensure that its employees strictly comply with said policy. Contractor warrants and represents that it complies with all applicable state and federal laws with respect to drug-free workplace initiatives and testing requirements. To the extent that any Contractor employee, agent, vendor, subcontractor or other personnel and each of their respective employees or agents or other persons are taking medication that can impair said persons' ability to properly and safely perform their required job, they shall not be utilized in furtherance of the work required by this Agreement. Any Contractor in violation of this Article is subject to immediate termination or dismissal from the Site indefinitely and forfeiture of the Performance Bond.

ARTICLE 23 FINISHING AND CLEANING UP

- 23.01 Contractor shall replace all surface material to the satisfaction of RIRRC, and shall then immediately place all surplus materials from the job site in a designated location, and promptly remove all Contractor tools and other property, leaving the site free and clean and in good order, at no additional expense to RIRRC. Surplus materials will be the property of the RIRRC and stockpiled in a location to be designated by RIRRC. The removal of materials shall follow closely upon the completion of the Work. Contractor shall exercise special care in keeping right-of-way and private and public lands upon which the Work is to be performed, clean and free of debris at all times, and to remove tools and other property belonging to Contractor when they are not being used. Before the Work will be considered complete, Contractor shall thoroughly clean all structures and their appurtenances.

ARTICLE 24 CLEAN-UP AT CONTRACTOR'S EXPENSE

- 24.01 In case Contractor shall fail or neglect to promptly remove (and place in designated stockpile locations) all surplus materials, tools and other incidentals, RIRRC may, after 24 hours notice, cause the work to be done, and the cost thereof shall be deducted from any monies then or thereafter due Contractor.

ARTICLE 25 RIGHTS OF ACCESS

- 25.01 Nothing herein contained or provided in the Contract Documents shall be construed as giving Contractor exclusive occupancy of the Work areas involved. RIRRC or any other Contractor employed by it, the various utility companies, Contractors or subcontractors employed by federal, state or local governmental agencies, or other utility firms or agencies involved in the general Project or upon public rights-of-way, may enter upon, or cross the area of Work, or occupy portions of it, as directed or permitted. When the territory of one contract is the convenient means of access to the other, each Contractor shall arrange its work in such manner as to permit such access to the other, and prevent unnecessary delay to the Work as a whole.

ARTICLE 26 LOADING

- 26.01 No part of the structures involved in this Contract shall be loaded during construction with a load greater than that it can carry with safety. Should any accidents or damage occur through any violation of this requirement, Contractor will be held responsible under its Contract and Bond.

ARTICLE 27 CONTRACTOR TO LAY OUT HIS/HER OWN WORK

- 27.01 RIRRC will provide for such general reference points as in its judgment will enable Contractor to proceed with the Work. Contractor, at its own expense, shall provide all materials and equipment and such qualified helpers as RIRRC may require for setting the general reference points, and shall protect and preserve all stakes, benches and other markers used to identify the reference points. Contractor shall lay out all the Contract Work from the above, and shall be responsible for the accuracy of all lines, grades and measurements. Contractor will be required to employ, at no additional expense to RIRRC, a Rhode Island Registered Land Surveyor or Registered Professional Engineer who shall perform all layout work for the construction of this Contract Work, including all lines, grades and measurements.
- 27.02 Contractor shall engage a Land Surveyor or Professional Engineer licensed in the State of Rhode Island, to perform those services specified within. At a minimum, a licensed surveyor will be required to furnish all surveys, measurements, and other data used to compute quantities and prepare final as-built drawings as specified in the contract documents.
- 27.03 Survey Procedures: Before proceeding with the layout of actual work, verify the established control information shown on the Drawings. As the Work proceeds, locate and place all cut, range, line, final grade, or other stakes and points, as may be needed for the proper progress of the Work. Maintain a surveyor's log or record book of such checks; make this log or record book available for Project Manager's reference. Record deviations from required lines and levels, and advise Project Manager promptly upon detection of deviations that exceed indicated or recognized tolerances. Record deviations which are accepted, and not corrected, on as-built drawings.
- 27.04 RIRRC may check all or any portion of the stakeout survey work or notes made by Contractor and have Contractor make any necessary corrections to the Work immediately. Such checking by RIRRC will not relieve Contractor of any responsibility for the accuracy or completeness of his/her work.

ARTICLE 28 COMPLETENESS OF WORK

- 28.01 In addition to the specified or described portions, all other work, materials, equipment, and labor of whatever description which are necessary or required to complete the Work or carry out the full intent of the Contract Documents, as interpreted by RIRRC, shall be provided by Contractor. Payment therefore, shall be considered as having been included in the prices stipulated for the appropriate items of Work as listed in the Bid.

ARTICLE 29 NOT USED

ARTICLE 30 DUST CONTROL

- 30.01 Contractor shall exercise every precaution and means to prevent and control dust arising out of his/her construction operations from becoming a nuisance to other on site operations, abutting property owners or surrounding neighborhoods. Continuous dust control using water shall be provided for all earth stockpiles, roadways, travel surfaces, and surfaces of refilled trenches. No extra payment will be made for providing the control measures and conforming to the requirements specified above, but compensation therefore, shall be considered to be included in the prices stipulated for the appropriate items of work. RIRRC may supply a suitable location/connection for Contractor to obtain water for this purpose. Any damage to the water connection will be the responsibility of the Contractor to repair at no expense to the RIRRC.

ARTICLE 31 CARE OF THE WORK

- 31.01 Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of the Work, and it shall be responsible for the proper care and protection of all materials delivered, and work performed, until completion and final acceptance, whether or not the same has been covered by partial payments made by RIRRC.

ARTICLE 32 WORK BY OTHERS

- 32.01 RIRRC reserves the right to do any other work which may connect with, become a part of, or be adjacent to, the Work embraced by the Agreement, at any time, by contract or otherwise. Contractor shall not interfere with or obstruct in any way the work of such other persons as RIRRC may employ, and shall execute its own work in such a manner as to aid in the executing of work by others, as may be required.

ARTICLE 33 FIRE PREVENTION AND PROTECTION

- 33.01 Federal laws (including but not limited to Occupational Safety and Health Act) and all state and municipal rules and regulations with respect to fire prevention, fire-resistant construction, and fire protection, shall be strictly adhered to, and all Work and facilities necessary therefore, shall be provided and maintained by Contractor in an approved manner.
- 33.02 All fire protection equipment, such as water tanks, hoses, pumps, extinguisher and other materials and apparatus, shall be provided for the protection of the Contract Work.
- 33.03 Open fires will not be permitted.

ARTICLE 34 NOT USED

ARTICLE 35 DAILY REPORTS

- 35.01 Contractor shall maintain, and submit to the Project Manager and/or RIRRC upon request, on an approved form, daily activity reports for the duration of the Project. The reports shall indicate: all personnel currently employed on the Work, including each trade and every Subcontractor; all equipment and whether such equipment was idle for the particular Day; a general description of all work accomplished; and any authorized extra work (time and materials reports shall be submitted on separate forms).

ARTICLE 36 CERTIFICATES OF CONFORMANCE

- 36.01 In addition to other requirements specified herein, Contractor, upon request, shall furnish to RIRRC, in the manner as directed, notarized certificates of conformance for all materials to be furnished under this Contract. The notarized certificates of conformance shall state that the materials to be furnished under this Contract meet the requirements of the Contract Documents. When directed, each shipment of materials shall be accompanied by the manufacturer's notarized certificates of conformance, certifying that the materials meet the requirements or Specifications. Unless otherwise specifically stated, all testing of materials shall be provided by Contractor at no additional expense to RIRRC.

ARTICLE 37 TEMPORARY POWER AND LIGHT

- 37.01 Contractor shall provide, where required and at no additional cost to RIRRC, an electrical distribution system with sufficient circuits and receptacle outlets suitable for temporary power and lights during construction. Contractor shall maintain the services until completion of the Project, at which time it shall remove the same.
- 37.02 Contractor shall provide all temporary wiring, extension cords, lighting, appurtenances and accessories for lights or power tools required in addition to outlets mentioned above. All equipment shall be in good condition and shall be of sufficient quality to meet all applicable codes and regulations.
- 37.03 The cost of electrical energy used for temporary power and lighting shall be borne by Contractor, which shall make all necessary applications and arrangements and pay all fees and charges necessary for the proper completion of the Work.

ARTICLE 38 ARCHAEOLOGICAL FINDS

- 38.01 During the life of this Contract, Contractor is herewith required to immediately notify the following organizations in the event that any articles, such as "charcoal," "bone," "shell," "cultural objects," "fired-cracked stones," or "stone flaking materials," or any other such related items of historical significance are discovered:
- 38.01.1 RIRRC.
 - 38.01.2 Project Manager / Engineer.
 - 38.01.3 Local Historical Society.
 - 38.01.4 Rhode Island Historical Preservation Society.

ARTICLE 39 NOT USED

ARTICLE 40 NOT USED

ARTICLE 41 CONTRACTOR QUALITY CONTROL

- 41.01 Contractor shall provide and maintain an effective quality control program.
- 41.01.1 Contractor shall establish a quality control system to perform sufficient inspection and tests of all items of work, including that of any Subcontractors, to ensure conformance to the Contract Documents with respect to the materials, workmanship, construction, finish, functional performance and identification.

- 41.01.2 Contractor's quality control system shall be the means by which he/she assures himself/herself that his/her construction complies with the requirements of the Contract Documents. The controls shall be adequate to cover all construction operations and should be keyed to the proposed construction sequence.
- 41.01.3 Contractor's job supervisory staff may be used for quality control, supplemented as necessary by additional personnel for surveillance, special technicians, or testing facilities to provide capability for the controls required by the technical provisions of the Specifications.
- 41.01.4 After the Contract is awarded and before construction operations are started, Contractor shall meet with Project Manager and discuss quality control requirements. The meeting shall develop mutual understanding relative to details of the system, including the forms to be used for recording the quality control operations, inspections, administration of the system, and the interrelationship of Contractor, RIRRC and Project Manager/Engineer.
- 41.01.5 Unless specifically authorized by RIRRC, no construction will be started until Contractor's quality control plan is approved.
- 41.01.6 Failure of Contractor to comply with the requirements of this paragraph shall be grounds for determination by Project Manager and/or Engineer that Contractor is not prosecuting the Work as required by the Specifications. Approval or progress payment estimates will be withheld until such time as Contractor complies with the provisions of this paragraph, and an amount will be deducted from the Contract Price equal to the value of the services not furnished.

****END OF SECTION****

SECTION 00 73 13
SPECIAL CONDITIONS

The Contractor is alerted to the following special conditions and requirements of the Contract Work. Additional conditions and requirements are presented in the Contract Documents:

1. It is the responsibility of Contractor to confirm that all required local and state permits have been secured. It is the Contractor's responsibility to secure and pay for all outstanding permits.
2. All work performed under this contract is subject to, and governed by, the Rhode Island Resource Recovery Corporation (RIRRC), The United States Environmental Protection Agency (U.S. EPA), the Rhode Island Department of Environmental Management (RIDEM), State of RI Building Commission, and any and all local regulatory bodies, as applicable. Contractor shall conform to RIDEM regulations on behalf of the RIRRC, and take all required action to protect and assure RIRRC compliance with applicable regulations.
3. Reference may be made to the Rhode Island Department of Transportation "Standard Specifications for Road and Bridge Construction" within the specifications. All references to measurement and payment are excluded from this contract. Also, the provisions of Part 100-General Requirements and Covenants are not to be considered a part of this contract. (Refer to Section 00 21 00, Article 44 – Notice to Bidders). When reference is made it is made to the most current version as of the issuance of the bid document.
4. The Contract Documents are based upon the most recent aerial topography of existing conditions as provided by the RIRRC. The Contractor bidding this project is made aware that the actual conditions at the time of construction may somewhat vary from that presented in the Contract Documents.
5. The Contractor shall make best effort to coordinate work under this contract with other ongoing site activities including those projects described in Section 00 21 00 – Information for Bidders, Article 41.
6. A Health and Safety Plan shall be submitted to the RIRRC for review purposes only. Acceptance of the Health and Safety Plan does not indicate completeness and in no way relieves the Contractor for responsibility for the said document. The Contractor shall meet all applicable State, OSHA, and MSHA Health and Safety regulations as applicable and required for this project.
7. It is the responsibility of the Contractor to ensure that flow of present channelized water on the site remains undisturbed. Any temporary changes to such flow or flows must first be approved by the Project Manager prior to implementation of such change, and returned to its original state upon completion of the Work.
8. It is the responsibility of the Contractor to ensure that all existing operations along the project alignment remain undisturbed.

****END OF SECTION****

SECTION 00 91 13
ADDENDUM

PART 1--GENERAL

1.01 DESCRIPTION

The purpose of this section is to list any addendums to the Contract that will affect the execution of the Contract or the Work.

PART 2--ADDENDUM

2.01 TBD

END OF SECTION

CHANGE ORDER

Owner: RI Resource Recovery Corporation
65 Shun Pike, Johnston, RI 02919

Change Order Number:

Project: RFP No. 371 - Operable Unit 1 (OU1) Existing Final Cover Repair

Initiation Date:

To:

RIRRC's Contract Number:

Contract Date:

You are directed to make the following changes in this Contract:

Furnish and install all necessary labor and materials to modify the Contract Requirements as follows:

The original (Contract Sum) was	\$	
Net change by previously authorized Change Orders	\$	
The (Contract Sum) prior to this Change Order was	\$	
The (Contract Sum) will be (increased) (decreased) (unchanged) by this Change Order	\$	
The new (Contract Sum) including this Change Order will be	\$	
The Contract Time will be changed by the following Calendar Days.	Days	
The Date of Final Completion as of the date of this Change Order is:	Date	

The adjustment in Contract Price, Contract Time and other language stipulated in this Change Order constitutes full, complete and final compensation for all Contractor costs and time associated with this Change Order and the Project. The Contractor agrees that this Change Order represents an all-inclusive and equitable adjustment to the Contract, and further agrees to release and waive all rights against RIRRC to make any further claim arising out of or as a result of this change on the Project. It is further understood and agreed that the adjustment provided herein constitutes compensation in full on behalf of the Contractor, his/her subcontractors, suppliers and vendors and anyone working under Contractor on the Project, for all costs and markup directly or indirectly attributable to the change ordered, for all delays and impacts related thereto, and for the performance of the change within the time frame stated. The undersigned each represents that they are duly authorized to bind their respective parties and agree to the terms of the Change Order.

Authorized:

Not valid until signed by RIRRC and Contractor.

CONTRACTOR
RI Resource Recovery Corporation
OWNER
65 Shun Pike
Johnston, RI 02919

PROJECT MANAGER / ENGINEER

By: _____
Title: _____

By: _____
Executive Director

By: _____
Project Manager

Date: _____

Date: _____

Date: _____

SECTION 00 93 00
CONSTRUCTION MANAGEMENT FORMS

PART 1--CONSTRUCTION MANAGEMENT FORMS

1.01 DESCRIPTION

The following forms shall be utilized during the duration of the Work as required to meet procedures as established in the Contract Documents. Forms should be completed to fulfill the requirements of the Contract as stated herein and submitted in a timely fashion so as to allow sufficient time for required action to be completed without unnecessary delays in the Work.

1.02 Forms included in this Section

- A. CERTIFICATE OF SUBSTANTIAL COMPLETION
- B. CERTIFICATE OF FINAL COMPLETION
- C. CERTIFICATION AND RELEASE – GENERAL CONTRACTOR – PERIODIC PAYMENT
- D. CERTIFICATION AND RELEASE – GENERAL CONTRACTOR – FINAL PAYMENT
- E. APPLICATION FOR PAYMENT FORM
- F. CHANGE ORDER FORM

PART 2--PRODUCTS (NOT USED)

PART 3--EXECUTION (NOT USED)

(Forms attached)

(space intentionally left blank)

CERTIFICATE OF SUBSTANTIAL COMPLETION

RIRRC'S Project No. _____ ENGINEER'S Project No. _____

Project: _____

CONTRACTOR: _____

Contract for: _____ Contract Date: _____

This certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

The Work to which this Certificate applies has been inspected by authorized representatives of the RIRRC, Contractor, and Project Manager / Engineer, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on:

Date of Substantial Completion _____

A tentative list of items to be completed or corrected is attached hereto. This list may not be all inclusive, and the failure to include an item in it does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by the Contractor within _____ days of the above date of Substantial Completion.

The responsibilities between the RIRRC and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties shall be as follows:

RESPONSIBILITIES:

RIRRC:

CONTRACTOR:

The following documents are attached to and made a part of this Certificate:

This Certificate does not constitute an acceptance of work not in accordance with the Contract Documents nor is it a release of the Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Project Manager/Engineer on _____, 20____

(PROJECT MANAGER / ENGINEER)

By: _____

Contractor accepts this Certificate of Substantial Completion on _____, 20____

(CONTRACTOR)

By: _____

RIRRC accepts this Certificate of Substantial Completion on _____, 20____

(RIRRC)

By: _____

CERTIFICATE OF FINAL COMPLETION

RIRRC'S Project No. _____ ENGINEER'S Project No. _____

Project: _____

CONTRACTOR: _____

Contract for: _____ Contract Date: _____

This certificate of Final Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

The Work to which this Certificate applies has been inspected by authorized representatives of the RIRRC, Contractor, and Project Manager / Engineer, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on:

Date of Final Completion _____

A tentative list of items to be completed or corrected is attached hereto. This list may not be all inclusive, and the failure to include an item in it does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by the Contractor within _____ days of the above date of Substantial Completion.

The responsibilities between the RIRRC and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties shall be as follows:

RESPONSIBILITIES:

RIRRC:

CONTRACTOR:

The following documents are attached to and made a part of this Certificate:

This Certificate does not constitute an acceptance of work not in accordance with the Contract Documents nor is it a release of the Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Project Manager/Engineer on _____, 20__

(PROJECT MANAGER / ENGINEER)

By: _____

Contractor accepts this Certificate of Final Completion on _____, 20__

(CONTRACTOR)

By: _____

RIRRC accepts this Certificate of Final Completion on _____, 20__

(RIRRC)

By: _____

PERIODIC PAYMENT
CERTIFICATION AND RELEASE – GENERAL CONTRACTOR

PROJECT: _____ (“Project”)
CONTRACTOR: _____ (“Contractor”)
PROJECT OWNER: RHODE ISLAND RESOURCE RECOVERY CORPORATION (“RIRRC”)

In consideration of the payment of \$ _____
made by RIRRC to Contractor, representing full and final payment due Contractor for all work, labor, equipment, materials and related services provided upon or concerning the above-referenced Project by Contractor, or anyone claiming by, through or under Contractor through and including Application for Payment No. _____, dated _____, and excluding any right to applicable retainage only ("Payment"), Contractor hereby:

1. Certifies to RIRRC that the Payment represents payment in full for all work, labor, equipment, materials, and other items furnished in connection with improvements to real property or any other work performed for the Project through and including Application for Payment No. _____, less any applicable retainage.

2. Waives, releases, relinquishes and dissolves all rights to any claims against the RIRRC, or claims arising thereunder, for all labor, materials or other items supplied in connection with improvements to real property or any other work performed through and including Application for Payment No. _____, and waives, releases, relinquishes and dissolves all past or present claims, liens, defenses, actions, causes of action, demands, sums of money, debts, accounts, demands, obligations, rights, damages and costs whatsoever in law and/or in equity which it now has or may have had from the beginning of the world to date regarding payment for work and/or labor and/or material and/or service provided on or related to the Project by Contractor or any of its subcontractors, suppliers, vendors or agents through and including Application for Payment No. _____, excluding only any right to applicable retainage.

3. Agrees to indemnify, defend, and save harmless the RIRRC from all claims and demands, and all expenses incurred, including attorneys’ fees and costs of defense, for or on account of or in any way arising out of the work of the undersigned or others claiming by, through or under Contractor, for payment of any labor performed or material or equipment furnished in connection with improvements to real property or any other work performed or any other work performed on land for the Project.

4. Warrants that all potential lien or other claimants whose claims arise from the undersigned's work, including but not limited to laborers, trustees of employee benefit groups, materialmen, suppliers, vendors, subcontractors, and any other service providers engaged or employed by the undersigned or any entity or individual claiming through the undersigned in connection with the Project, (collectively the “CLAIMANTS”), have been paid in full and that none of such CLAIMANTS has any claim, demand or lien against the Project, and that all applicable taxes, fee and benefits relating to the undersigned's work have been paid in full. **The undersigned acknowledges and agrees, that RIRRC is relying upon the truth of such representations made by the undersigned both personally, and as an authorized**

representative of Contractor, as a condition precedent to the making of payments as identified herein.

5. Represents and warrants that no other person or entity has any prior interest in the claims, demands, allegations or causes of action arising on its behalf on account of the work; that the undersigned has a sole right and authority to execute this release and to have received the sums specified herein; and that the undersigned has not sold, assigned, transferred, conveyed, or otherwise disposed of the claims, demands or rights released hereby.

6. This CERTIFICATION AND RELEASE shall be an independent covenant and shall operate and be effective with respect to all work, services, labor, equipment or materials furnished in connection with the Project under any contract or supplemental contract, whether oral or written, and shall be applicable to any and all contract, extra or additional work performed or costs incurred at any time with respect to the Project.

IN WITNESS WHEREOF, with all right, power, and authority required to execute this instrument, this CERTIFICATION AND RELEASE has been executed as a sealed instrument under the penalties of perjury on the _____ day of _____, 20____.

WITNESS:

CONTRACTOR:

BY: _____

TITLE: _____

Duly Authorized

Subscribed, sworn to, and acknowledged before me this _____ day of _____, 20____.

Notary Public

My Commission Expires:

FINAL PAYMENT
CERTIFICATION AND RELEASE – GENERAL CONTRACTOR

PROJECT: _____ (“Project”)
CONTRACTOR: _____ (“Contractor”)
PROJECT OWNER: RHODE ISLAND RESOURCE RECOVERY CORPORATION (“RIRRC”)

In consideration for payment in the amount of \$ _____
for all work, labor, equipment and material provided on or related to the above-referenced Project by Contractor or any of its subcontractors, suppliers, vendors or agents, Contractor and all of its past, present and future trustees, owners, shareholders, representatives, administrators, attorneys, agents, employees, predecessors and assigns and successors, hereby:

1. Certifies to RIRRC that Contractor has received the sum of _____
_____ representing payment in full for all work, labor, equipment, materials, and other items furnished in connection with improvements to real property or any other work performed for the above-referenced Project through and including the date hereof.

2. Waives, relinquishes and dissolves all rights to any (i) lien (including, without limitation, liens under the mechanic’s lien law of any state wherein the Project may lie) upon the property, real estate, buildings, or improvement comprising the above-referenced Project; (ii) claims for all labor, materials or other items supplied in connection with improvements to real property or any other work performed or any other work performed up to the date hereof; and (iii) all past or present claims, defenses, actions, causes of action, demands, obligations, rights, damages and costs whatsoever which it now has or may have had from the beginning of the world to date regarding payment for work and/or labor and/or material provided on or related to the above referenced Project by Contractor or any of its subcontractors, suppliers, vendors or agents.

3. Agrees to indemnify, defend, and save harmless the RIRRC, from all liens, claims and demands, and all expenses incurred, including attorneys’ fees and costs of defense, for or on account of or in any way arising out of the work of the undersigned or others claiming by, through or under Contractor, for payment of any labor performed or material or equipment furnished in connection with improvements to real property or any other work performed or any other work performed on land for the above-referenced Project.

4. Warrants that all potential lien or other claimants whose claims arise from the undersigned's work, including but not limited to laborers, trustees of employee benefit groups, materialmen, suppliers, vendors, subcontractors, and any other service providers engaged or employed by the undersigned in connection with the Project, (collectively the “CLAIMANTS”), have been paid in full and that none of such CLAIMANTS has any claim, demand or lien against the Project, and that all applicable taxes, fee and benefits relating to the undersigned's work have been paid in full. **The undersigned acknowledges and agrees, that RIRRC is relying upon the truth of such representations made by the undersigned both personally, and as an authorized representative of Contractor, as a condition precedent to the making of payments as identified herein.**

5. Represents and warrants that no other person or entity has any prior interest in the claims, demands, allegations or causes of action arising on its behalf on account of the work; that the undersigned has a sole right and authority to execute this final release and to have received the sums specified herein; and that the undersigned has not sold, assigned, transferred, conveyed, or otherwise disposed of the claims, demands or rights released hereby.

6. Warrants that the work of the Contractor and any of the Contractor's subcontractors, suppliers, vendors and agents will be free from defects or faults of any kind in design, materials and workmanship for a period of one (1) year, or such longer time as may be required by the Project documents, from the date the work was performed in connection with the Project.

7. This CERTIFICATION AND RELEASE shall be an independent covenant and shall operate and be effective with respect to all work, services, labor, equipment or materials furnished in connection with the Project under any contract or supplemental contract, whether oral or written, and shall be applicable to any and all contract, extra or additional work performed or costs incurred at any time with respect to the Project.

IN WITNESS WHEREOF, with all right, power, and authority required to execute this instrument, this CERTIFICATION AND RELEASE has been executed as a sealed instrument under the penalties of perjury on the _____ day of _____, 20____.

WITNESS:

CONTRACTOR:

BY: _____

TITLE: _____

Duly Authorized

Subscribed, sworn to, and acknowledged before me this _____ day of _____, 20____.

Notary Public

My Commission Expires:

APPLICATION FOR PAYMENT NO. _____

To: _____ (Owner)
From: _____ (Contractor)
Contract: _____
Project: _____
RIRRC's Contract No. _____ Engineer's Project No. _____
For Work accomplished through the date of: _____.

1.	Original Contract Price:	\$	_____
2.	Net change by Change Orders and Written Amendments (+ or -):	\$	_____
3.	Current Contract Price (1 plus 2):	\$	_____
4.	Total completed and stored to date:	\$	_____
5.	Retainage (per Agreement):		
	% of completed Work:	\$	_____
	% of stored material:	\$	_____
	Total Retainage:	\$	_____
6.	Total completed and stored to date less retainage (4 minus 5):	\$	_____
7.	Less previous Application for Payments:	\$	_____
8.	DUE THIS APPLICATION (6 MINUS 7):	\$	_____

Accompanying Documentation:

Contractor's Certification:

The undersigned Contractor certifies that (1) all previous progress payments received from RIRRC on account of Work done under the Contract referred to above have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered 1 through _____ inclusive; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to RIRRC at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to RIRRC indemnifying RIRRC against any such Lien, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Dated _____
CONTRACTOR

By: _____

State of _____
County of _____
Subscribed and sworn to before me this _____
day of _____, _____

Notary Public
My Commission expires: _____

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated _____
ENGINEER

By: _____

APPLICATION FOR PAYMENT

INSTRUCTIONS

A. GENERAL INFORMATION

The sample form of Schedule of Values is intended as a guide only. Many projects require a more extensive form with space for numerous items, descriptions of Change Orders, identification of variable quantity adjustments, summary of materials and equipment stored at the site and other information. Note that the format for retainage must be changed if the Contract permits (or the law provides), and Contractor elects to deposit securities in lieu of retainage. Refer to Article 14 of the General Conditions for provisions concerning payments to Contractor.

B. COMPLETING THE FORM

The Schedule of Values should be reproduced as appropriate in the space indicated on the Application for Payment form. Note that the cost of materials and equipment is often listed separately from the cost of installation. Also, note that each Unit Price is deemed to include Contractor's overhead and profit.

The form is suitable for use in the Final Application for Payment as well as for Progress Payments; however, the required accompanying documentation is usually more extensive for final payment. All accompanying documentation should be identified in the space provided on the form.

C. LEGAL REVIEW

All accompanying documentation of a legal nature, such as Lien waivers, should be reviewed by an attorney, and Engineer should so advise RIRRC.

D. MBE/WBE reporting form must be attached. Failure to include will delay payment processing.

E. Certified weekly payroll for pay periods corresponding to Application for payment must be attached. Failure to include with delay payment processing.

Application No. _____ Date: _____

ITEM	UNIT PRICE	ESTIMATED QUANTITY	SCHEDULE OF VALUES AMOUNT	QUANTITY COMPLETED	AMOUNT	%	MATERIAL STORED	AMOUNT COMPLETED AND STORED
1.	\$		\$		\$		\$	\$
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.								
21.								
22.								
23.								
24.								
25.								
26.								
27.								
28.								
29.								
30.								
TOTAL			\$		\$		\$	\$

Note: Total Schedule of Values should equal the Current Contract Price.

DIVISION 1
GENERAL REQUIREMENTS

SECTION 01 00 00
SPECIFICATION FORMAT

PART 1--GENERAL

1.01 DESCRIPTION

- A. The purpose of this section is to generally describe the format in which the Specifications are prepared. This section shall be considered only as a supplementary aid to Contractor, presented for purposes of aiding comprehension of the Specifications.

1.02 GENERAL FORMAT

- A. The Specifications, and particularly the technical sections, are arranged generally according to the Construction Specifications Institute (CSI) format.
- B. Technical sections are arranged in numerical order, however, section numbers may not be consecutive from section to section. Page numbering is subordinate to each section.
- C. Most sections are generally broken down into three parts:
 - 1. PART 1- GENERAL
 - 2. PART 2- PRODUCTS
 - 3. PART 3- EXECUTION

All three parts may not always be utilized, and in some cases the title is different than as set forth above.
- D. Paragraph designations are subordinate to each part.
- E. Contractor is advised that the format described is general and flexible in nature. There is some overlapping of specified information between the various portions of the Specifications. In all cases the requirements of the Contract Documents, as a whole, shall apply.

1.03 EXPLANATIONS

- A. DESCRIPTIONS: Many technical sections begin with a paragraph entitled "Description", "Scope of Work", "Work Included" or similar wording. In such paragraphs, a brief description of the work generally specified in that Section is presented. These descriptions shall not be construed to be all-inclusive, and are merely general descriptions, as noted above, presented for the purpose of citing the location of a particular subject matter in the Specification. Again, all requirements of the entire Contract Documents apply, whether specifically mentioned in the descriptions or not.

- B. RELATED WORK SPECIFIED ELSEWHERE: Some technical sections include a paragraph, which list some of the related work specified elsewhere in the Contract Documents. Such listings and enumerations are not meant to be inclusive; rather, they are presented as a means of aiding Contractor in locating some of the other Specification sections, which relate to work specified in that Section. It shall be clearly understood that all of the Work, and all of the Specification sections and other portions of the Contract Documents, are interrelated, and that the requirements set forth in all of the Contract Documents shall be met.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 10 00
SUMMARY OF WORK

PART 1--GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Section 00 72 00 - General Conditions, Section 00 73 00 – Supplemental Conditions, and Section 00 73 13 - Special Conditions, and other Division 1 Specification sections, apply to the work of this section.

1.02 PROJECT DESCRIPTION AND REQUIREMENTS

- A. GENERAL: Project name is RFP # 371 – Operable Unit 1 (OU1) Existing Final Cover Repair. Contract Documents are dated September 2026.
- B. LOCATION: The Central Landfill is located at 65 Shun Pike in Johnston, Rhode Island, to the north of Shun Pike, and is owned and operated by the Rhode Island Resource Recovery Corporation (RIRRC).
- C. SITE ACCESS: Access to the facility is controlled with fences and gates around the site. The facility can be accessed in the southeast corner of the site, at the main entrance on Shun Pike. Access to other gates around the facility may be available for the Contractor at the discretion of RIRRC.
- D. ENVIRONMENTAL CONDITIONS: This project is located in Johnston, Rhode Island. The site of the work is at an elevation of approximately 250 feet above mean sea level. Temperatures can be reasonably expected to be between 10°F - 45°F during the winter and 60°F - 90°F during the summer. Humidity can range from 40% to 80%.
- E. CONTRACT TIME: The project shall be completed within the timeframes outlined for the different Phases of this project (Sections 00 11 13 & 00 21 00). The successful Contractor should plan on receiving the “Notice to Proceed” within 120 days of the bid due date for this project. Demobilization shall occur within 15 days after Final Completion.
- F. CONTRACT DOCUMENTS: Related requirements and conditions that have an impact on the Project and that are indicated in the Contract Documents include, but are not necessarily limited to, the following:
 - 1. Existing site conditions and restriction on use of the site.
 - 2. Work performed prior to work under this Contract.
 - 3. Alterations and coordination with existing work.
 - 4. Work to be performed concurrently by RIRRC.
 - 5. Work to be performed concurrently by separate contractor, if required.

6. Work to be performed subsequent to work under this Contract.
7. Work to be performed concurrently with traffic on Shun Pike.

G. **CONTRACTOR USE OF PREMISES:** The existing landfill facility will remain in operation throughout the execution of this contract. The Contractor shall schedule and conduct his work to minimize necessary shutdowns and interference with normal site operations and maintenance. During the course of operating the landfill, RIRRC may require the Contractor to move equipment and materials being used for the Project to an area that will not interfere with operations. Areas for material and equipment storage will be agreed upon with RIRRC.

RIRRC and Contractor shall coordinate site activities during routine project meeting.

- H. **PERMITS:** The Contractor shall comply with the conditions of all permits issued to RIRRC in connection with the work to be performed under this Contract.
- I. **EXISTING UTILITIES:** Contractor shall confirm existing underground utilities and services prior to beginning construction activities. Contractor shall protect all existing utilities, above and below grade, during construction activities. If damaged by the Contractor during construction, utilities and services shall be repaired by the Contractor at the Contractor's expense.

Among the existing utilities, particular attention shall be paid to the following:

1. Overhead electrical power lines
2. Underground electrical conduit
3. Underground telecommunications and fiber optic
4. Underground water lines
5. Underground natural gas lines
6. Underground sanitary sewer lines and forcemains
7. Underground landfill gas lines

- J. **Abbreviated Written Summary:** Briefly the work of the Contract can be summarized as follows:

This project will include the repair of less than 1 acre (~41,600 sq. ft.) of existing final cover surface which has experienced settlement and requires installation of geosynthetic materials over the delineated area.

The project will occur during the 2026 and 2027 calendar years. The major items to be provided for the OU1 Final Cap Repair Project will include, but are not limited to: erosion and sedimentation controls, site preparation, grading and shaping as needed, removal and re-installation of existing topsoil, and furnish and installation of geosynthetic materials.

The essential features of the work are:

1. Mobilization of Equipment

2. Surveys and Record Drawings
 3. Placement of Erosion Control devices as necessary and as shown on the drawings and/or directed by RIRRC.
 4. Removal and stockpiling of existing topsoil within limit of work.
 5. Installation of base layer.
 6. Furnish and Install of Geosynthetic Clay Liner, 60 mil LLDPE geomembrane, and composite drainage net.
 7. Installation of Vegetated Support Layer Soil
 8. Re-installation of topsoil, grading and shaping of topsoil layer.
 9. Temporary access to project area.
 10. Seed and fertilize topsoil layer.
 11. Final Cleanup and Demobilization
- K. Additional details of the construction are provided in this document as well as the Drawings which accompany this document.
- L. CONSTRUCTION SCHEDULE: In accordance with SECTION 00 72 00, Article 2.06 the Contractor shall provide a graphic construction schedule indicating the various subdivisions of the work and the dates of commencing and finishing each. The schedule shall show the time allowed for testing and for other procedures which must be completed prior to the work being put into operation.
- M. PROJECT MEETINGS: Meetings will be held as often as deemed necessary by the Project Manager, typically weekly. Representatives of the Project Manager, Contractor and RIRRC shall attend, with other parties in attendance as needed. The purpose of the meetings will be to discuss health and safety, schedule, progress, coordination, submittals, and project-related issues.
- N. FINAL CLEANUP: As a condition of final acceptance of the project, the Contractor shall clean all project areas, and remove all silt, debris, sand, and construction materials from sumps, wells, ponds, and grounds prior to completing the project.
- O. Additional details of the construction are provided in the Contract Specifications well as the Contract Drawings.
- P. There are several types of materials necessary for the construction of this project, as required by the Contract Documents. The intent of the project is that required materials are supplied and installed by the Contractor as part of the respective lump sum or unit price bid items as indicated in Section 00 41 00 – Bid Form and Section 01 29 00 – Measurement and Payment.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 14 26
GRADES, LINES, LEVELS AND QUANTITY SURVEYS

PART 1--GENERAL

1.01 REQUIREMENTS

- A. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Contract Drawings or as directed by the Project Manager or Engineer. Benchmarks, horizontal control, and all additional base lines and benchmarks for grades will be established by Contractor in coordination with the Project Manager or Engineer. Contractor shall provide such materials as templates, stakes, range markers, spikes, nails and boards, surveyors, electronic measuring devices, and given such assistance as may be required. The Contractor shall anticipate actual conditions to vary from those shown on the drawings. The Contractor will have seven (7) calendar days to verify that the drawings furnished are a true or reasonably accurate representation of the conditions of the site. Any error or apparent discrepancy in the data shown, or omissions of data required for accurately accomplishing the stakeout survey shall be referred immediately to RIRRC for interpretation or correction.
- B. Any and all survey work shall be performed by Contractor at his/her expense. Contractor shall provide a Rhode Island licensed surveyor or professional engineer as chief of party, competently qualified persons, all necessary instruments, stakes and other material to perform the Work. The Contractor shall utilize RIRRC's current survey control site information.
- C. Prior to initiation of work, Contractor shall conduct a pre-construction survey to confirm coordinates and existing elevations at all structures and project areas. Field verified coordinates, structure elevations, and existing site grades shall be provided prior to submitting all structure shop drawings and shall be used to confirm structure dimensions and cut/fill requirements.
- D. Contractor shall establish all base lines for the location of the principal component parts of the Work together with a suitable number of benchmarks and range markers adjacent to the Work. Based upon the information provided by the Contract Drawings, Contractor shall develop and make all detail surveys and install stakes for all working points, lines, elevations and quantity surveys necessary for the completion of the Project. Where no other specific dimensions are provided, layout dimensions shall be scaled from the Drawings.
- E. Unless otherwise approved by Project Manager, surveys for quantities shall be along parallel lines no more than 50 feet on center, with elevations measured at intervals of 25 feet or less at all changes in slope, high points and low points.
- F. Contractor shall have the responsibility to carefully preserve the benchmarks, reference points and stakes, and in the case of destruction thereof by Contractor or

resulting from its negligence, Contractor shall be charged with the expense and damage resulting therefrom, and Contractor shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such benchmarks, reference points, and stakes.

- G. Existing or new control points, property markers and monuments that will be or are destroyed during the normal course of construction shall be re-established by Contractor, and all reference ties recorded thereafter shall be furnished to Project Manager. All computations necessary to establish the exact position of the Work shall be made and preserved by Contractor. All such work shall be done at no additional cost to RIRRC.
- H. Project Manager and/or Engineer may check any or all portion of the Work, and Contractor shall afford all necessary assistance to Project Manager and Engineer in carrying out such check. Any necessary corrections to the Work shall be immediately made by Contractor at no additional cost to RIRRC. Such checking shall not relieve Contractor of any responsibilities for completion of surveys and soundings or for the accuracy or completeness of its work.
- I. CONSTRUCTION TOLERANCES - Unless otherwise stated herein, construction tolerances shall be +0.2 feet horizontally, and +0.1 feet vertically. All surfaces shall be reasonably free from irregularities. Slopes or grades shall not be less than specified minimums nor greater than specified maximums as shown on the Drawings. Thicknesses of soil components shall be no less than specified and/or shown on the Drawings and within these Specifications.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 29 00

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 All Work performed as described in these Contract Documents will be paid for under one or more of the items listed in the SCHEDULE OF BID ITEMS. All other activities required in connection with performance of the Work, including all Work required under **DIVISION 1 - GENERAL REQUIREMENTS**, whether described in the Contract Documents or mandated by applicable codes, permits and laws, will not be separately paid for unless specifically provided for in the form of general proposal, but will be considered incidental to performance of the overall Project.

1.2 Each unit or lump sum price stated in the SCHEDULE OF PROPOSAL ITEMS shall constitute full compensation as herein specified for each item of Work completed in accordance with the Drawings and Specifications.

1.3 CONTRACTOR shall make his/her own estimate of the quantities necessary to complete the Work. Project material quantities involve a level of uncertainty due to potential variation in existing utility locations. CONTRACTOR must determine their own material quantities and review with RIRRC prior to exceeding the values listed in the bid document.

1.4 The payment items listed herein and in the SCHEDULE OF PROPOSAL ITEMS are intended to provide full payment for the Work shown on the Drawings and specified herein. Any Work called for or inferred in the documents but not listed as a payment item shall be considered incidental to the overall Project, which includes mobilization and demobilization of any additional equipment and materials to complete the job, dust controls, access controls, permits, etc.

1.5 It is the intent of these Specifications to provide a finished product as shown on the plans and specified herein that meets the performance standards of all stormwater related structures and ancillary roadways and project related work as shown on the Drawings.

1.6 Partial payment for lump sum items will be made based upon the percentage of Work completed in accordance with the schedule of values as estimated by CONTRACTOR and approved by RIRRC's representative under each individual item to date. Partial payment for unit price items will be made based upon the estimated quantity completed to date for items listed in the schedule of values.

1.7 No payment will be made for materials delivered but not installed, unless agreed to in writing between RIRRC and CONTRACTOR

1.8 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>
1	Mobilization & Demobilization
2	Surveys and Record Drawings
3	Erosion Control & Stormwater Diversion
4	Complete Test Pits to Confirm Project Limits
5	Construct & Remove 3-feet-thick Temporary Access Road(s)
6	Remove and Stockpile Existing Topsoil Layer
7	Furnish and Install 6-inch Base Layer Soil
8	Install Owner-supplied General Fill
9	Install 18-inch thick Low Hydraulic Conductivity Soil
10	Furnish Geosynthetic Clay Liner
11	Install Geosynthetic Clay Liner
12	Furnish 60-mil LLDPE Textured Geomembrane
13	Install 60-mil LLDPE Textured Geomembrane
14	Furnish Composite Drainage Net
15	Install Composite Drainage Net
16	Furnish and Install Vegetative Support Soil
17	Re-install Existing Topsoil
18	Furnish and Install Seed and Hydro-mulch
19	Expose Existing Final Cover Geomembrane
20	Weld Proposed OU1 60-mil Geomembrane to Existing Final Cover Geomembrane
21	Furnish and Install Geomembrane Well Boots

1.9 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

The methods of measurement and basis of payment for the Payment Items listed above are specified in the following sections:

1. Mobilization/Demobilization

Mobilization will be measured on the basis that: sufficient labor, equipment and material is on site to start work; storage and office facilities and utilities are setup as necessary; acceptable safety and quality assurance programs are established; and local authorities are contacted and any local permits have been obtained to begin the construction. Demobilization will be measured by the removal of all temporary facilities and equipment that the Contractor has used on the site and cleaning up the site such that the site is brought back to its preconstruction condition. Cleaning up the site includes, but is not limited to; removal of all temporary erosion and sedimentation controls, removal of accumulated sediment from existing diversion benches or swales and other areas, and removal of all debris from the work zone.

The Lump Sum Price for Mobilization/Demobilization shall be full compensation for all labor, material, equipment and other incidentals required to comply with the Contract Drawings and Specifications. The Lump Sum amount shall not exceed five (5) percent of the Contractor's bid.

One-half of the payment will be made once the Contractor has completed the mobilization and one half will be paid once the demobilization is completed. RIRRC will not provide fuel, power, or any other utilities to the CONTRACTOR for any equipment or work trailer.

2. Surveys and Record Drawings

The Work required for this item will be measured on the basis of satisfactory evidence of Survey control throughout the project, completion of initial surveys, progress surveys for payments, and the As-Built Drawings at the completion of the project. Surveys and record drawings are required for but not limited to the following items: existing conditions, base layer, low hydraulic conductivity soil, geomembrane, and final conditions plan including but not limited to let-down channels, diversion benches, access roads, anchor trench/tie-in locations, tops and toes of berms and swales, stormwater culverts, rip-rap, and other utilities or structures related to the final conditions of the project.

The Lump Sum Price for Survey/As-Built shall be full compensation for all labor, equipment, material, and other incidentals as required to maintain survey control according to the Contract Drawings and Specifications. All record drawings, field notes, and project photographs shall be provided to RIRRC at the project closeout in electronic format. Record drawings shall be supplied in AutoCAD format. Surveyor qualifications are as referenced in the technical specifications. Payment of fifty (50) percent of this item shall be prorated according to the percent complete of the entire project. Payment of fifty (50) percent will be made upon final full project submittal of the As- Built Drawings stamped by a Rhode Island registered licensed surveyor at the completion of the project.

3. Erosion Control & Stormwater Diversion

This bid item requires that the CONTRACTOR furnish all labor, materials, tools and equipment and perform all operations necessary for the installation erosion controls in accordance with the Contract Drawings and Technical Specifications Section 31 25 00. This work includes trenching, backfilling, purchasing, installing, maintaining and replacing as necessary all erosion controls. This work also includes constructing any temporary stormwater diversion structures that may be necessary to divert stormwater runoff away from the project area. Additional incidental items include, but are not limited to, removing all erosion controls, and cleanup and restoration of the disturbed areas by grading, seeding and fertilizing upon completion of the project.

This item will be paid in accordance with the Agreement unit price per lump sum. Twenty percent (20%) of this item will be held until all erosion controls are removed at the end of the project.

4. Complete Test Pits to Confirm Project Limits

This bid item requires that the CONTRACTOR furnish all labor, materials, tools and equipment and perform all operations necessary to excavate and confirm the test pits around the project perimeter to confirm the project limits, in accordance with the Contract Drawings and Technical Specifications. This work includes but is not limited to excavating, trenching, backfilling, surveying, and required labor to perform the test pits. This work also includes survey control and

as-built of test pits, backfill of test pits, and any temporary stormwater diversion structures or erosion controls that may be necessary.

This item will be paid in accordance with the Agreement unit price per lump sum.

5. Construct & Remove 3-foot-thick Temporary Access Road(s)

This bid item requires that the CONTRACTOR furnish all labor, materials, tools, equipment, and incidentals to perform all operations necessary to construct the 3-ft thick by 30 foot wide temporary access road in accordance with the contract drawings and Technical Specifications. This includes but is not limited to: furnishing, loading, hauling, grading, and installing road materials, and removal of road materials and replacement of topsoil and seed in all disturbed areas upon completion. Contractor required to monitor and add road materials as needed throughout the project to maintain the minimum 3-foot thickness.

This item will be paid in accordance with the unit price per linear foot of temporary access road constructed and removed. RIRRC may conduct their own survey to determine payment quantity as needed. One-half of the payment will be made once the Contractor has installed the temporary access road(s) and one half will be paid once the road(s) are removed and the areas are restored to existing conditions.

6. Remove and Stockpile Existing Topsoil Layer

This bid item requires that the CONTRACTOR furnish all labor, materials, tools, equipment, and perform all operations necessary to remove and stockpile the existing topsoil layer soils in accordance with the Contract Drawings and Technical Specifications. This work includes but is not limited to: excavation, loading, hauling, and transporting the soil to the stockpile, managing the stockpile, and other incidentals as necessary. RIRRC will provide a location for this temporary stockpile within 2,000 feet from the active project area for the Contractor to utilize. CONTRACTOR should assume 6 to 12 inches of existing topsoil material exists across the limits of the project.

This item will be paid in accordance with the Agreement unit price per square foot of topsoil layer soils removed and stockpiled based on a pre- and post-topographic survey of the work area performed by a licensed surveyor.

7. Furnish and Install 6-inch-thick Base Layer Soil

This bid item requires that the CONTRACTOR furnish all labor, materials, tools, equipment, source and construction testing, and perform all operations necessary to furnish and install 6-inch-thick base layer soils in accordance with the Contract Drawings and Technical Specifications Section 31 23 05. This work includes but is not limited to: obtaining a source of soil to meet the requirements of the base layer soil, source testing, transporting the base layer soil to the job site, managing the stockpile, loading, hauling, and installing the 6-inch-thick layer and other incidentals as necessary to meet the required base layer installation. The CONTRACTOR shall be allowed a 2-inch maximum exceedance over the minimum required depth of 6 inches for the base layer. CONTRACTOR will perform a record survey of the top of the base layer soil upon completion and submit stamped drawings to RIRRC.

This item will be paid in accordance with the Agreement unit price per square foot of in-place base layer soils installed with a minimum thickness of 6 inches, based on a pre- and post-topographic survey of the work area performed by a licensed surveyor and submit progress plans and final stamped drawings to RIRRC. The survey will be performed by the CONTRACTOR and approved by RIRRC. RIRRC may conduct their own survey to determine payment quantity as needed.

No payment shall be allowed or made for materials stored.

8. Install Owner-supplied General Fill

This bid item requires that the CONTRACTOR furnish all labor, materials, tools, equipment, source and construction testing, and perform all operations necessary to furnish and install the owner-supplied general fill in accordance with the Contract Drawings and Technical Specifications. This work includes but is not limited to: source testing, loading and hauling the material from the owner designated stockpile to the project site, managing the stockpile, and installing the general fill and other incidentals as necessary to meet the required elevations. CONTRACTOR will perform a record survey of the existing conditions prior to placement of the general fill, and also post-installation of the top of general fill upon completion and submit stamped drawings to RIRRC.

This item will be paid in accordance with the Agreement unit price per cubic yard of in-place general fill soils installed, based on a pre- and post-topographic survey of the work area performed by a licensed surveyor and submit progress plans and final stamped drawings to RIRRC. The survey will be performed by the CONTRACTOR and approved by RIRRC. RIRRC may conduct their own survey to determine payment quantity as needed.

9. Install Owner supplied 18-inch-thick Low Hydraulic Conductivity Soil

The bid item requires that the CONTRACTOR provide all labor, materials, tools and equipment, and perform all operations necessary to haul and install the 18-inch thick low hydraulic conductivity soil layer in accordance with the Contract Drawings and Technical Specifications 31 23 01. This work includes but is not limited to: clearing unsuitable material on OWNER's stockpile and placing in designated area, processing soil to remove stones and other unsuitable objects by either screening or picking to meet the project specifications, and stockpile management as required. Loading and hauling soil from stockpile to project site, managing stockpile and stormwater runoff, screening soil if necessary, and placing soil in accordance with Technical Specifications, and watering and dewatering to maintain required moisture contents prior to geosynthetic deployment. CONTRACTOR will perform a record survey of the top of the low hydraulic conductivity soil upon completion and submit stamped drawings to the OWNER.

This item will be paid in accordance with the Agreement unit price per square foot of low hydraulic conductivity soil installed with a minimum thickness of 18 inches and maximum thickness of 20 inches based on pre- and post- topographic survey of the work area, performed by a licensed surveyor. The OWNER may conduct their own field measurements to evaluate the quantity of work.

Article 10.11.3(b) of Section 00 72 00 – General Conditions, will not apply to this bid item.

10. Furnish Geosynthetic Clay Liner

The work required for this item will be measured on the basis of furnishing the geosynthetic clay liner to the project site in accordance with the project specifications. The CONTRACTOR must determine the amount of geosynthetic clay liner necessary to deploy over the proposed baseliner area, taking into account for overlap and slope.

This item will be paid in accordance with the Agreement unit price per square foot for furnishing the geosynthetic clay liner shall be full compensation for all materials, tools, supervision, equipment, and labor, as well as all Manufacturer Quality Control (MQC) data from the manufacturer in accordance with the Specifications 33 47 14. CONTRACTOR will be responsible for off-loading and properly storing the GCL, as well as transporting the GCL from storage to the construction area, and managing material waste. Initial payment shall be based upon actual GCL manufacturer purchase orders supplied by the CONTRACTOR to the OWNER for review after material is delivered on-site and stored in OWNER approved location. No payment shall be made for materials which are damaged during the delivery process. No payment shall be made until all required testing has been submitted and accepted by OWNER for materials which have been delivered to the site. Final payment shall be determined by actual approved lined area, as measured in Item #9. A credit will be issued to the OWNER following the measurement of installed area for any material initially paid for in excess of what has been installed.

11. Install Geosynthetic Clay Liner

The work required for this item will be measured on the satisfactory evidence of the installation of the geosynthetic clay liner, in accordance with the Contract Drawings and Technical Specifications 33 47 14. The actual approved lined area will be measured planimetrically with no additional allowances for overlap, slopes, or material waste.

This item will be paid in accordance with the Agreement unit price per square foot for installing the geosynthetic clay liner, and shall be full compensation for all materials, tools, supervision, equipment, and labor. Payment shall be based upon actual approved lined area of the geosynthetic clay liner as measured from the record as-built drawings, and will be based on survey at the tie-in locations and inside edge of anchor trench, with no allowances included for geosynthetics placed within the anchor trench. No payment shall be made for overlap from the survey area, material waste, or materials which were damaged during the delivery process or during installation.

12. Furnish 60-mil LLDPE Textured Geomembrane

The work required for this item will be measured on the satisfactory evidence of the installation of 60-mil textured LLDPE geomembrane in accordance with the Technical Specifications 33 47 13. The CONTRACTOR must determine the amount of geomembrane necessary to deploy over the proposed lined area, taking into account for overlap and slope. The actual approved lined area will be measured planimetrically with no additional allowances for overlap, slopes, and waste material.

This item will be paid in accordance with the Agreement unit price per square foot for furnishing the 60-mil textured LLDPE geomembrane, and shall include full compensation for all materials, tools, supervision, equipment, and labor, as well as Manufacturer Quality Control (MQC) data from the

manufacturer in accordance with the Specifications. CONTRACTOR will be responsible for off-loading and properly storing the geomembrane, as well as transporting the geomembrane from storage to the construction area and managing material waste. Initial payment shall be based upon actual geomembrane manufacturer purchase orders supplied by the CONTRACTOR to the OWNER for review after material is delivered on-site and stored in OWNER approved locations. No payment shall be made for materials which were damaged during the delivery process. No payment shall be made until all required testing has been submitted and accepted by OWNER for materials which have been delivered to the site. Final payment shall be determined by actual approved lined area, as measured under Item #11. A credit will be issued to the OWNER following the measurement of installed area for any material initially paid for in excess of what has been installed.

13. Install 60-mil LLDPE Textured Geomembrane

The work required for this item will be measured on the basis of satisfactory evidence of the installation of the 60-mil textured LLDPE geomembrane in accordance with the Technical Specifications 33 47 13. The CONTRACTOR must determine the amount of geomembrane necessary to deploy over the proposed lined area, taking into account for overlap and slope. The actual approved lined area will be measured planimetrically with no additional allowances for overlap, slopes, and waste material.

This item will be paid in accordance with the Agreement unit price per square foot for furnishing the 60-mil textured LLDPE geomembrane, and shall include full compensation for all materials, tools, supervision, equipment, and labor. Payment shall be based upon actual approved lined area of the geomembrane as measured from the record as-built drawings, and will be based on survey at the tie-in locations and/or inside edge of anchor trench, with no allowances included for geosynthetics placed within the anchor trench.

CONTRACTOR will be responsible for providing an as-built drawing of the geomembrane upon completion and submit to the OWNER for approval.

14. Furnish Composite Drainage Net

The work required for this item will be measured on the basis of furnishing the composite drainage net to the project site in accordance with Technical Specifications 33 46 01. The CONTRACTOR must determine the amount of composite drainage net necessary to deploy over the proposed lined area, taking into account for overlap and slope.

This item will be paid in accordance with the Agreement unit price for furnishing the composite drainage net, and shall include full compensation for all materials, tools, supervision, equipment, and labor, as well as all Manufacturer Quality Control (MQC) data from the manufacturer in accordance with Technical Specifications 33 46 01. CONTRACTOR will be responsible for off-loading and properly storing the composite drainage net, as well as transporting the composite drainage net from storage to the construction area and managing material waste. Initial payment shall be based upon actual manufacturer purchase orders supplied by the CONTRACTOR to the OWNER for review after material is delivered on-site and stored in OWNER approved location. No payment shall be made for materials which were damaged during the delivery process. No payment shall be made until all required testing has been submitted and accepted by OWNER for materials which have been delivered to the

site. Final payment shall be determined by actual approved lined area, as measured under Item #13. A credit will be issued to the OWNER following the measurement of installed area for any material initially paid for in excess of what has been installed.

15. Install Composite Drainage Net

The work required for this item will be measured on the basis of satisfactory evidence of the installation of the composite drainage net in accordance with Technical Specifications 33 46 01. The CONTRACTOR must determine the amount of bi-planar composite drainage net necessary to deploy over the proposed lined area, taking into account for overlap and slope. The actual approved lined area will be measured planimetrically with no additional allowances for overlap, slopes, and waste material.

This item will be paid in accordance with the Agreement unit price for installing the composite drainage net, and shall include full compensation for all materials, tools, supervision, equipment, and labor. Payment shall be based upon actual approved lined area of the composite drainage net as measured from the record as-built drawings, and will be based on survey at the tie-in locations and/or inside edge of anchor trench, with no allowances included for geosynthetics placed within the anchor trench.

16. Furnish and Install Vegetative Support Soil

The bid item requires that the CONTRACTOR provide all labor, materials, tools and equipment, and perform all operations necessary to furnish and install the 18-inch thick vegetative support soil layer in accordance with the Contract Drawings and Technical Specifications 31 23 23. This work includes but is not limited to: soils testing, stockpiling, and installation of a minimum 18-inch thick vegetative support soil layer in accordance with the Contract Drawings and Technical Specifications 31 23 23.

The CONTRACTOR shall be allowed a 2-inch maximum exceedance over the minimum required depth of 18 inches for the vegetative support soil.

This item will be paid in accordance with the Agreement unit price per square foot of in-place vegetative support soil furnished and installed with a minimum thickness of 18 inches, based on a pre- and post-topographic survey of the work area performed by a licensed surveyor and submit progress plans and final stamped drawings to RIRRC. The survey will be performed by the CONTRACTOR and approved by RIRRC. RIRRC may conduct their own survey to determine payment quantity as needed.

17. Re-install Existing Topsoil

This bid item requires that the CONTRACTOR provide all labor, materials, tools and equipment, and perform all operations necessary to haul and re-install the 6-inch thick topsoil layer in accordance with the Contract Drawings and Technical Specifications 32 92 00. This work includes but is not limited to: loading, hauling, stockpile management, and installing the 6-inch thick layer.

This item will be paid in accordance with the Agreement unit price per square foot of in-place topsoil installed with a minimum thickness of 6 inches, based on a pre- and post-topographic survey of the work area performed by a licensed surveyor and submit progress plans and final stamped drawings to RIRRC. The survey will be performed by the CONTRACTOR and approved by RIRRC. RIRRC may conduct their own survey to determine payment quantity as needed.

18. Furnish and Install Seed and Hydro-mulch

The work required for this item will be measured on the basis of furnishing the seed and hydro-mulch to the project site in accordance with Technical Specifications 32 92 00. This work includes but is not limited to: CONTRACTOR supplying seed and hydro-mulch, testing, seed certifications, installing the seed and hydro-mulch over the topsoil area and any areas disturbed by the CONTRACTOR, and satisfactory evidence of seed growth as determined by the specifications.

This item will be paid in accordance with the Agreement unit price per square yard of seed and hydro-mulch installed based on the approved installed area as determined by item #15.

19. Expose Existing Final Cover Geomembrane

This bid item requires that the CONTRACTOR furnish all labor, materials, tools, equipment, and incidentals to perform all operations necessary to expose the existing geomembrane final cover tie-in location area. This item shall include but is not limited to: surveying and locating limit of existing geosynthetics, excavating and exposing the existing geosynthetics, cutting existing geocomposite drainage net to expose existing geomembrane, removing and stockpiling soils, dewatering, erosion and sedimentation control, and coordinating with the Geosynthetics Contractor. If geosynthetic damage occurs at tie-in location, CONTRACTOR shall be responsible for repairing geosynthetics in accordance with the project specifications at no additional cost to the OWNER.

This item will be paid in accordance with the Agreement unit price per linear foot of trench exposed, field measured parallel to the trench and approved by RIRRC. RIRRC may conduct their own field measurements to evaluate the quantity of work. The final payment shall be adjusted as necessary based on the actual limits of the tie-in location as measured from the Record Drawings. The length of the tie-in will be measured planimetrically, with no additional allowances for placement of materials on slopes.

20. Weld Proposed OU1 60-mil Geomembrane to Existing Final Cover Geomembrane

The work required for this item will be measured on the basis of satisfactory evidence of the geosynthetics tie-in weld of the OU1 Cap geomembrane to the existing final cover geomembrane along the OU1 area perimeter.

This item will be paid in accordance with the Agreement unit price per linear foot of the existing final cover geomembrane welded to the proposed OU1 60-mil geomembrane, and shall be full compensation for all materials, tools, supervision, equipment, and labor, to the line and grades as shown on the project drawings. Payment shall be based on the actual approved length as measured from the Record Drawings. The length of the tie-in weld will be measured planimetrically, with no additional allowances for placement of materials on slopes

21. Furnish and Install Geomembrane Well Boot

The work required for this item will be measured on the basis of satisfactory evidence of the installation of geomembrane penetration boots at the landfill gas extraction wells and any other related penetrations. The installation of the penetration boots shall be in accordance with Detail 5/4 of C800, and the Contract Drawings.

This item will be paid in accordance with the Agreement unit price per each geomembrane penetration boot installed, and shall be full compensation for all materials, tools, supervision, equipment, and labor.

****END OF SECTION****

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination and Project conditions.
- B. Preconstruction meeting.
- C. Site mobilization meeting.
- D. Progress meetings.
- E. Pre-installation meetings.
- F. Closeout meeting.
- G. Alteration procedures.

1.02 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various Sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
 - 1. Coordination Drawings: Prepare as required to coordinate all portions of Work. Show relationship and integration of different construction elements that require coordination during fabrication or installation to fit in space provided or to function as intended. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are important.

- D. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion and for portions of Work designated for RIRRC's partial occupancy.
- G. After RIRRC's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of RIRRC's activities.

1.03 PRECONSTRUCTION MEETING

- A. Architect/Engineer will schedule and preside over meeting after Notice of Award.
- B. Attendance Required: Architect/Engineer, RIRRC, appropriate governmental agency representatives, Construction Manager, major Subcontractors, and Contractor.
- C. Minimum Agenda:
 - 1. Execution of RIRRC-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, schedule of values, and Progress Schedule.
 - 5. Designation of personnel representing parties in Contract, and Architect/Engineer.
 - 6. Communication procedures.
 - 7. Procedures and processing of requests for interpretations, field decisions, field orders, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
 - 8. Scheduling.
 - 9. Critical Work sequencing.
 - 10. Scheduling activities of Geotechnical Engineer.
- D. Contractor: Record minutes and distribute copies to participants within two days after meeting, with two copies each to Architect/Engineer, RIRRC, and those affected by decisions made.

1.04 SITE MOBILIZATION MEETING

- A. Architect/Engineer will schedule and preside over meeting at Project Site prior to Contractor occupancy.

- B. Attendance Required: Architect/Engineer, RIRRC, Contractor, Construction Manager, and major Subcontractors.
- C. Minimum Agenda:
 - 1. Use of premises by RIRRC and Contractor.
 - 2. RIRRC's requirements and occupancy.
 - 3. Construction facilities and controls provided by RIRRC.
 - 4. Temporary utilities provided by RIRRC.
 - 5. Survey and building layout.
 - 6. Security and housekeeping procedures.
 - 7. Schedules.
 - 8. Procedures for testing.
 - 9. Procedures for maintaining record documents.
 - 10. Requirements for startup of equipment.
 - 11. Inspection and acceptance of equipment put into service during construction period.
- D. Contractor: Record minutes and distribute copies to participants within two days after meeting, with two copies each to Architect/Engineer, RIRRC, and those affected by decisions made.

1.05 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Architect/Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.
- C. Attendance Required: Job superintendent, major Subcontractors, Contractors, and suppliers, and Architect/Engineer, RIRRC, as appropriate to agenda topics for each meeting.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittal schedule and status of submittals.
 - 6. Review of off-Site fabrication and delivery schedules.
 - 7. Maintenance of Progress Schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.

12. Effect of proposed changes on Progress Schedule and coordination.
 13. Other business relating to Work.
- E. Contractor: Record minutes and distribute copies to participants within two days after meeting, with two copies each to Architect/Engineer, RIRRC, and those affected by decisions made.

1.06 PREINSTALLATION MEETINGS

- A. When required in individual Specification Sections, convene pre-installation meetings at Project Site before starting Work of specific Section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific Section.
- C. Notify Architect/Engineer four days in advance of meeting date.
- D. Prepare agenda and preside over meeting:
 1. Review conditions of installation, preparation, and installation procedures.
 2. Review coordination with related Work.
- E. Record minutes and distribute copies to participants within two days after meeting, with two copies each to Architect/Engineer, RIRRC, and those affected by decisions made.

1.07 CLOSEOUT MEETING

- A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.
- B. Attendance Required: Contractor, Construction Manager, major Subcontractors, Architect/Engineer, RIRRC, and others appropriate to agenda.
- C. Notify Architect/Engineer four days in advance of meeting date.
- D. Minimum Agenda:
 1. Start-up of facilities and systems.
 2. Operations and maintenance manuals.
 3. Testing, adjusting, and balancing.
 4. System demonstration and observation.
 5. Operation and maintenance instructions for RIRRC's personnel.
 6. Contractor's inspection of Work.
 7. Contractor's preparation of an initial "punch list."
 8. Procedure to request Architect/Engineer inspection to determine date of Substantial Completion.
 9. Completion time for correcting deficiencies.

10. Inspections by authorities having jurisdiction.
 11. Certificate of Occupancy and transfer of insurance responsibilities.
 12. Partial release of retainage.
 13. Final cleaning.
 14. Preparation for final inspection.
 15. Closeout Submittals:
 - a. Project record documents.
 - b. Operating and maintenance documents.
 - c. Operating and maintenance materials.
 - d. Affidavits.
 16. Final Application for Payment.
 17. Contractor's demobilization of Site.
 18. Maintenance.
- E. Record minutes and distribute copies to participants within two days after meeting, with two copies each to Architect/Engineer, RIRRC, and those affected by decisions made.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.01 ALTERATION PROCEDURES

- A. Designated areas of existing facilities will be occupied for normal operations during progress of construction. Cooperate with RIRRC in scheduling operations to minimize conflict and to permit continuous usage.
1. Perform Work not to interfere with operations of occupied areas.
 2. Keep utility and service outages to a minimum and perform only after written approval of RIRRC.
 3. Clean RIRRC-occupied areas daily. Clean spillage, overspray, and heavy collection of dust in RIRRC-occupied areas immediately.
- B. Materials: As specified in product Sections; match existing products with new and salvaged products for patching and extending Work.
- C. Employ skilled and experienced installer to perform alteration and renovation Work.
- D. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion. Comply with Section 01 70 00 - Execution and Closeout Requirements

- E. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- F. Remove debris and abandoned items from area and from concealed spaces.
- G. Prepare surface and remove surface finishes to permit installation of new Work and finishes.
- H. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.
- I. Remove, cut, and patch Work to minimize damage and to permit restoring products and finishes to specified condition.
- J. Refinish existing visible surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes.
- K. Where new Work abuts or aligns with existing Work, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- L. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect/Engineer for review.
- M. Where change of plane of ¼ inch or more occurs, submit recommendation for providing smooth transition to Architect/Engineer for review. Request instructions from Engineer.
- N. Trim existing doors to clear new floor finish. Refinish trim to specified condition.
- O. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing other imperfections.
- P. Finish surfaces as specified in individual product Sections.

****END OF SECTION****

SECTION 01 33 00
SUBMITTALS

PART 1--GENERAL

1.01 DESCRIPTION

- A. Submittals covered by these requirements include manufacturers' information, shop drawings, test procedures, test results, samples, requests for substitutions, and miscellaneous work-related submittals. Submittals shall also include, but not be limited to, all mechanical, electrical and electronic equipment and systems, materials, reinforcing steel, fabricated items, and piping and conduit details. The Contractor shall furnish all drawings, specifications, descriptive data, certificates, samples, tests, methods, schedules, and manufacturer's installation and other instructions as specifically required in the contract documents to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the contract documents.

1.02 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall assure that the material, equipment or method of work shall be as described in the submittal. The Contractor shall verify that all features of all products conform to the specified requirements. Submittal documents shall be clearly edited to indicate only those items, models, or series of equipment, which are being submitted for review. All extraneous materials shall be crossed out or otherwise obliterated. The Contractor shall ensure that there is no conflict with other submittals and notify the Project Manager in each case where his submittal may affect the work of another contractor or RIRRC. The Contractor shall coordinate submittals among his subcontractors and suppliers including those submittals complying with unit responsibility requirements and applicable technical sections.
- B. The Contractor shall assign a person, the Instrumentation Coordinator, who will be responsible for the coordination of all the control systems specified on this Project. It shall be the responsibility of the Instrumentation Coordinator to assure the compatibility of all meters, instruments, switches, alarms, assemblies, electrical, and HVAC inputs to control systems. It shall be the sole responsibility of the Instrument Coordinator to communicate with the other contractors involved in the project and assure that the control provided under this contract are compatible with the equipment provided under other contracts. Submittals related to instrumentation and electrical items shall be coordinated through the Instrumentation Coordinator.
- C. The Contractor shall coordinate submittals with the work so that work will not be delayed. He shall coordinate and schedule different categories of submittals, so that one will not be delayed for lack of coordination with another. No extension of time

will be allowed because of failure to properly schedule submittals. The Contractor shall not proceed with work related to a submittal until the submittal process is complete. This requires that submittals for review and comment shall be returned to the Contractor stamped "No Exceptions Taken" or "Make Corrections Noted."

- D. The Contractor shall certify on each submittal document that he has reviewed the submittal, verified field conditions, and complied with the contract documents.
- E. The Contractor may authorize in writing a material or equipment supplier to deal directly with the Project Manager or with RIRRC with regard to a submittal. These dealings shall be limited to contract interpretations to clarify and expedite the work.
- F. Contractor is required to submit details of all materials and equipment, even though a particular item is the one specified.
- G. Upon approval of the Project Manager, the Contractor may submit manufacturer's literature as a substitute for, or supplement to, shop drawings. The minimum size for any submission shall be 8 1/2 inches by 11 inches, and the maximum size shall not exceed 36 inches by 24 inches. All shop drawings and printed matter submitted shall clearly indicate the section of the Contract Documents to which they correspond (e.g. Section 31 23 00).

1.03 CATEGORIES OF SUBMITTALS

A. GENERAL:

Submittals fall into two general categories; submittals for review and comment, and submittals which are primarily for information only. Submittals which are for information only are generally specified as PRODUCT DATA in Part 2 of applicable specification sections.

1. SUBMITTALS FOR REVIEW AND COMMENT:

All submittals except where specified to be submitted as product data for information only shall be submitted by the Contractor to the Project Manager for review and comment.

2. PRODUCT DATA - SUBMITTALS FOR INFORMATION ONLY:

Where specified, the Contractor shall furnish submittals (product data) to RIRRC / Project Manager for information only.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION

3.01 TRANSMITTAL PROCEDURE

- A. **GENERAL:** Unless otherwise specified, submittals regarding material and equipment shall be accompanied by Transmittal Form. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete sections, for which the submittal is required. Submittal documents common to more than one piece of equipment or material shall be identified with all the appropriate numbers. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.

A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted. Original submittal numbers shall have the following format: "XXX"; where "XXX" is the sequential number assigned by the Contractor. Resubmittals shall have the following format: "XXX-Y"; where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals, i.e., A, B, or C being the 1st, 2nd, and 3rd resubmittals, respectively. Submittal 25B, for example, is the second resubmittal of submittal 25.

- B. **DEVIATION FROM CONTRACT:** If the Contractor proposes to provide material, equipment, or method of work which deviates from the project manual, he shall indicate so under "deviations" on the transmittal form accompanying the submittal copies.
- C. **SUBMITTAL COMPLETENESS:** Submittals which do not have all the information required to be submitted, including deviations, are not acceptable and will be returned without review.

3.02 REVIEW PROCEDURE

- A. **GENERAL:** Submittals are specified for those features and characteristics of materials, equipment, and methods of operation which can be selected based on the Contractor's judgment of their conformance to the specified requirements. Other features and characteristics are specified in a manner which enables the Contractor to determine acceptable options without submittals. The review procedure is based on the Contractor's guarantee that all features and characteristics not requiring submittals conform as specified. Review shall not extend to means, methods, techniques, sequences or procedures of construction, or to verifying quantities, dimensions, weights or gauges, or fabrication processes (except where specifically indicated or required by the project manual) or to safety precautions or programs incident thereto. Review of a separate item, as such, will not indicate approval of the assembly in which the item functions.

When the contract documents require a submittal, the Contractor shall submit the specified information as follows:

1. Five (5) copies of all submitted information plus one (1) reproducible original of all information shall be transmitted with submittals for review and comment.
2. Unless otherwise specified, five (5) copies of all submitted information shall be transmitted with submittals for information only (Product Data).

B. SUBMITTALS FOR REVIEW AND COMMENT: Unless otherwise specified, within 21 calendar days after receipt of a submittal for review and comment, the Project Manager will have reviewed the submittal and have returned two (2) copies with review comments to the Contractor and RIRRC. The reproducible original will be retained by the reviewer. The returned submittals shall indicate one of the following actions:

1. If the review indicates that the material, equipment or work method complies with the project manual, submittal copies will be marked "NO EXCEPTIONS TAKEN." In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.
2. If the review indicates limited corrections are required, copies will be marked "MAKE CORRECTIONS NOTED." The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in O&M data, a corrected copy shall be provided.
3. If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "AMEND AND RESUBMIT." Except at his own risk, the Contractor shall not undertake work covered by this submittal until it has been revised, resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."
4. If the review indicates that the material, equipment, or work method does not comply with the project manual, copies of the submittal will be marked "REJECTED - SEE REMARKS." Submittals with deviations which have not been identified clearly may be rejected. Except at his own risk, the Contractor shall not undertake the work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

- C. SUBMITTALS FOR INFORMATION ONLY (PRODUCT DATA): Such information is not subject to submittal review procedures and shall be provided as part of the work under this contract and its acceptability determined under normal inspection procedures. Submittals for information only shall be marked received and one copy shall be returned to the Contractor, and two copies shall be sent to RIRRC for their files.

3.03 EFFECT OF REVIEW OF CONTRACTOR'S SUBMITTALS

- A. Review of contract drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of his responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Project Manager, Engineer, or RIRRC, or by any officer or employee thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that RIRRC has no objection to the Contractor, upon his own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.

END OF SECTION

SECTION 01 35 29
HEALTH AND SAFETY

PART 1--GENERAL

1.01 GENERAL REQUIREMENTS INFORMATION

- A. The Work site is on property owned by the RIRRC and therefore is adjacent to areas utilized for solid waste landfill operations, where unsafe conditions may occur. The Contractor is advised that methane, hydrogen sulfide, and other toxic gases may be encountered during the execution of this Project. Portions of the existing landfill (Phase I) is unlined and therefore, groundwater downgradient from the landfill may be contaminated.
- B. The Contractor is responsible for monitoring working conditions at all times during construction. When necessary, the Contractor shall provide appropriate protective clothing, equipment, and facilities for his/her personnel and establish work place procedures to ensure their safety. The Contractor shall enforce the use of these procedures, equipment, and facilities in accordance with the following guidelines:
 - 1. Safety and Health Regulations Promulgated by the U.S. Department of Labor, OSHA, 29 CFR 1910 - Occupational Safety and Health Standards, and 29 CFR 1920 Safety and Health Regulations for Construction.
 - 2. U.S. Environmental Protection Agency, Interim Standard Operating Safety Guides, Office of Emergency and Remedial Response, Hazardous Response Support Division, Rev. September 1982.
 - 3. U.S. Environmental Protection Agency, Medical Monitoring Program Guidelines.
- C. The Contractor shall implement a Health and Safety protection program. The written program shall be submitted to the RIRRC at least 5 days prior to commencement of the Work for review. The review in no way lessens the Contractor's responsibility to prepare a complete plan, inclusive of all environmental, chemical, physical and liquid work hazards anticipated to be encountered during the progression of the Work. The program procedures shall include provisions for stations allowing workers to wash and to put on and remove protective clothing, and stations for vehicles to be cleaned, if necessary, before leaving the site. It shall also include a plan for maintaining proper ventilation of Work areas, provisions for required breathing apparatus for workers, and contingency plans for emergencies, at a minimum.
- D. As necessary, the Contractor shall engage an independent, qualified Health and Safety expert having experience on similar projects, to prepare the Health and Safety program, to monitor site conditions, and to recommend all necessary protection. The Contractor shall follow such recommendations and shall provide such

protection to his personnel, and personnel of RIRRC and any consultants, as may be affected.

- E. The Contractor shall comply with all federal, State, and local safety requirements related to the presence of combustible and nausea inducing gases.
- F. If, at any time, RIRRC is apprised of a safety hazard which demands immediate attention because of its high potential for harm to public travel, persons on or around the Work, or public or private property, RIRRC shall have the right to order such safeguards to be erected and such precautions to be taken as necessary, and the Contractor shall comply with such orders. If, under such circumstances, the Contractor does not or cannot immediately put the Work into proper condition, or if the Contractor or his representative is not available to be notified immediately of the insufficiency of safety precautions, RIRRC may perform activities required to put the Work into such a safe condition. The Contractor shall pay all expenses of such labor and materials that were used for this purpose by him, RIRRC. The fact that RIRRC or the Project Manager does not observe a safety hazard or does not order the Contractor to take remedial measures shall in no way relieve Contractor of the entire responsibility for any costs, loss, or damage by any party sustained on account of the insufficiency of the safety precautions taken by him or by RIRRC acting under authority of this section.
- G. Conditions of high hazard are present or can be present at the site during performance of the Work. It is the responsibility of Contractor to take appropriate safety precautions to meet whatever conditions of hazard may be present during the performance of the Work, whether reasonably foreseeable or not. The safety conditions enumerated within the Specifications are the minimum permissible and neither RIRRC nor the Engineer make any representation that the safety standards provided herein will be adequate to meet all eventualities. The Contractor is therefore alerted to the fact that it shall be the Contractor's responsibility to anticipate and provide such additional facilities, personnel, and equipment necessary to protect life and property from whatsoever conditions of hazard are present or may be present.
- H. The Contractor shall supply and erect highly visible safety fencing a minimum of three feet in height around all construction areas that pose a threat to safety. The Contractor shall erect safety fencing at his own discretion or as directed by RIRRC and shall maintain such fencing until such a time that the potential safety hazard has been rectified. Upon final completion of construction, all safety fencing shall be removed off site by the Contractor. Safety fencing requirement of OSHA shall be enforced by the Contractor.

****END OF SECTION****

SECTION 01 35 43
ENVIRONMENTAL PROTECTION

PART 1--GENERAL

1.01 WORK INCLUDED

- A. Contractor shall furnish all labor, equipment, and materials required for environmental protection during and as the result of construction operations under this Contract, except for those measures set forth in other provisions of these Specifications. Environmental protection requires consideration of air, water, and land, and involves noise and solid waste management as well as other pollutant controls. Contractor shall implement environmental protection measures to ensure all requirements or regulations set forth in site-wide or project-specific permits are met.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Not Applicable

1.03 APPLICABLE REGULATIONS

- A. In order to prevent environmental pollution and to provide for environmental protection arising from construction activities related to the performance of this Contract, Contractor and his Sub-Contractors shall comply with all applicable Federal, State and local Laws and Regulations concerning environmental protection, as well as the specific requirements stated in this section and elsewhere in the Specifications.

1.04 SUBMITTALS

- A. **IMPLEMENTATION PLAN:** Prior to commencement of the Work, Contractor shall meet with RIRRC to develop a mutual understanding of compliance with the provisions of this section and administration of the environmental protection program.
- B. **TEMPORARY EXCAVATION AND EMBANKMENTS:** If the Contractor proposes to construct temporary roads or embankments and excavations or work areas, he shall submit the following for approval prior to scheduled start of such temporary work:
 - 1. A layout of all temporary roads, excavations and embankments to be constructed within the work area.
 - 2. Plans and cross-sections of proposed embankments and their foundations, including a description of proposed materials.

3. A landscaping plan showing the proposed restoration of the area. Removal of any necessary trees and shrubs outside the limits of existing cleared areas shall be indicated. The plan shall provide for the obliteration of construction scars and shall provide for a reasonably natural appearing final condition of the area. Modification of the Project shall be made only with the written approval of the Engineer. No unauthorized road construction, excavation or embankment construction, including disposal area will be permitted.

PART 2--PRODUCTS (NOT USED)

PART 3--EXECUTION

3.01 GENERAL

- A. It is intended that the resources within the Project boundaries and outside the limits of Work performed under this Contract be preserved in their present condition. Contractor shall confine his construction activities to areas defined on the Drawings or in the Specifications, unless approved in writing by RIRRC.
 1. **PREVENTION OF LANDSCAPE DEFACEMENT:** Limits of working areas may include areas for storage of construction material, and shall be cleared in a manner which will enable satisfactory restoration and which will not affect the environment during or after the construction period. Contractor shall not enter beyond the working limits of the working area unless approved in writing by RIRRC.
 2. **MATERIAL STORAGE:** The location of areas for storage of Contractor's materials required temporarily in the performance of the Work shall be within the limits of the working area as provided for by RIRRC and shall require written approval of RIRRC prior to use. The preservation of the landscape shall be an imperative consideration in the selection of the sites. Where temporary structures are constructed on sidehill, cribbing may be required to be used to obtain level foundation. Benching or leveling of earth may not be allowed, depending on the location of the proposed facility.
 3. **POST CONSTRUCTION CLEANUP:** Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, stockpiles of excess or waste materials, temporary erosion and sediment controls, or any other vestiges of construction. The disturbed areas shall be graded and repaired in accordance with the Drawings and to a condition equal or better than prior to construction as required.

3.02 PROTECTION OF WATER RESOURCES

- A. Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids or harmful materials. It is the responsibility of Contractor to investigate and comply with all applicable federal, state, county and municipal laws

concerning pollution of rivers, streams and impounded water. All Work under this Contract shall be performed in such a manner that objectionable conditions will not be created in streams, lakes, reservoirs, or bodies of water adjacent to, or within the Project area.

- B. EROSION: Temporary erosion and sediment control measures shall be provided and maintained until permanent vegetation is established.
- C. SPILLAGE: At all times of the year, special measures shall be taken to prevent chemicals, fuels, oils, greases, bituminous materials, waste washing, herbicides and insecticides, and cement and surface drainage from entering public or private waters.
- D. DISPOSAL: Wastes, effluent, trash, garbage, oil, grease, chemicals, etc., in or adjacent to reservoirs, streams or other waterways shall be disposed of by the Contractor as specified in these Contract Documents. If any waste material is dumped in unauthorized area, Contractor shall remove the material and restore the area to the condition of the adjacent undisturbed area. If necessary, contaminated soil shall be excavated, disposed of as specified herein, replaced with suitable fill material, compacted, and finished with topsoil at the expense of Contractor.

3.03 MAINTENANCE

- A. Contractor shall dispose of all discarded debris and waste materials in a manner compliant with regulations. Toilet facilities shall be kept clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with the operations.
- B. Contractor shall frequently remove materials no longer required on the site so that, at all times the site, access routes to the site, and any other areas disturbed by his operations shall present a neat, orderly, workmanlike appearance.
- C. Before final payment, Contractor shall move / remove all surplus material, false work, and debris of every nature resulting from his operations, and put the site in a neat, orderly condition. Contractor shall restore all areas which have been used for or disturbed by his operations, to their original condition or to a condition satisfactory to and approved by RIRRC.

3.04 NOISE CONTROL

- A. Contractor shall use every effort and means possible to minimize or eliminate noise caused by his operation that RIRRC may consider objectionable. Contractor shall provide working machinery, designed to operate with the least possible noise, to be operated at times other than those specified in the Bid document, should they be required. The air intakes of compressors shall be equipped with silencers. Engine driven machinery, where permitted, shall be equipped with mufflers. Sound insulating enclosures and baffles shall be provided where directed.

3.05 PESTICIDES AND HERBICIDES

- A. Pesticides and herbicides shall be utilized only when specifically approved by RIRRC, and in accordance with all regulations regarding their application. Where pesticides or herbicides are to be used in construction operations, data relative to restrictions on the type or types of material available and approved for application to control or eradicate vegetation, insects or organisms shall be obtained from the Department of Environmental Management. The amount of pesticide applied shall be limited to the recommended dosage. Application equipment shall provide an even distribution of the materials in accordance with the approved rate in terms of pounds per acre. Materials delivered to the site shall be covered and protected from the elements. Contents of the containers shall not be exposed. Application equipment or empty containers shall not be rinsed. Empty containers shall be disposed of legally, off-site, in a manner that would not cause pollution of surface or groundwater.

3.06 PROHIBITED CONSTRUCTION PROCEDURES

- A. Contractor is advised that the disposal of waste materials in wetlands, stream corridors, and floodplain is strictly prohibited. Any violation of this restriction by Contractor or any person employed by him will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action be taken against the offending parties. Therefore, Contractor will be required to remove the material at his own expense and restore the area impacted.
- B. At a minimum, Contractor shall comply with the following requirements regarding prohibited construction procedures as follows:
1. Dumping or discharge of spoil material or excessively turbid water into any stream corridor, any wetlands, any surface waters, or at unspecified locations.
 2. Indiscriminate, arbitrary or capricious operations of equipment in any stream corridors, any wetlands or surface waters.
 3. Disposal of trees, brush and other debris in any stream corridors, any wetlands, any surface waters, or at unspecified location.
 4. Disposal of excess or unsuitable excavation material in wetlands or floodplain even with permission of the property owner.
 5. Open burning of project debris.
 6. Location of storage stockpile areas in environmentally sensitive areas.

****END OF SECTION****

SECTION 01 41 23
MODIFICATIONS TO EXISTING STRUCTURES, PIPING AND EQUIPMENT

PART 1--GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, material equipment and incidentals required to modify, alter and/or convert existing structures as shown or specified and as required for the installation of new mechanical equipment, piping and appurtenances. Existing piping and equipment shall be decommissioned, removed, modified, and/or dismantled as necessary for the performance of structural and piping alterations in accordance with the requirements herein specified.

PART 2--PRODUCTS

(NOT IN CONTRACT)

PART 3--EXECUTION

3.01 GENERAL

- A. The Contractor shall cut, repair, reuse, excavate, demolish or otherwise remove parts of the existing structures, piping or appurtenances, as indicated on the Contract Drawings, herein specified, or necessary to permit completion of the work under this contract. He shall dispose of surplus materials resulting from the above work as specified in the Contract Drawings. The above work shall include the drilling of holes into existing concrete for the purpose of setting dowel rods, anchor bolts, or other appurtenances, the cutting of holes in masonry for the installation of pipe, and necessary cutting and bending of reinforcing steel, structural steel, or miscellaneous metal work found embedded in the existing structures.
- B. The Contractor shall decommission, dismantle, and/or remove all existing equipment, piping and other appurtenances required for the completion of the work. Where called for or required, he shall cut existing pipelines for the purpose of making connections thereto. Anchor bolts for equipment and structural steel removed shall be cut off 1 inch below the concrete surface. Surface shall be finished as specified in Division 3.
- C. When removing materials or portions of existing structures and when making openings in walls and partitions, the Contractor shall take all precautions and use all necessary barriers and other protective devices so as not to damage the structures beyond the limits necessary for the new work, nor to damage the structures or contents by falling or flying debris.

- D. All work of altering existing structures shall be done at such time and in such manner as will comply with the approved time schedule. So far as possible before any part of the work is started, all tools, equipment, and materials shall be assembled and made ready so that the work can be completed without delay.
- E. Where holes in existing masonry are required to be sealed, unless otherwise herein specified, they shall be sealed with cement mortar or concrete. The sides of the openings shall be provided with keyed joints and shall be suitably roughened to furnish a good bond and make a watertight joint. All loose or unsound material adjacent to the opening shall be removed and, if necessary, replaced with new material. The method of placing the mortar seal shall provide a suitable means of releasing entrapped air.
- F. Surfaces of seals visible in the completed work shall be made to match as nearly as possible the adjacent surfaces.
- G. Nonshrink grout shall be used for setting wall castings, sleeves, leveling pump bases, doweling anchors into existing concrete and elsewhere as shown.
- H. Where necessary or required for the purpose of making connections, the Contractor shall cut existing pipelines in a manner to provide an approved joint. Where required, he shall weld beads, flanges or provide couplings, as required.
- I. The Contractor shall provide suitable plugs, bulkheads or other means to hold back the flow of water or other liquids, all as required in the performance of the work under this contract.

****END OF SECTION****

SECTION 01 42 00
STANDARD REFERENCES

PART 1--GENERAL

1.01 GENERAL

- A. Wherever reference is made to any published standards, codes, or standard specifications, it shall mean the latest standards code, specification, or tentative specification of the technical society, organization, or body referred to which is in effect at the date of this Invitation for Bids.
- B. The following is a partial list of typical abbreviations which may be used in the specifications and the organizations to which they refer:
- | | |
|--------|--|
| AASHTO | American Association of State Highway and Transportation Officials |
| ACI | American Concrete Institute |
| AISC | American Institute of Steel Construction |
| ANSI | American National Standards Institute |
| ASCE | American Society of Civil Engineers |
| ASTM | American Society for Testing and Materials |
| MUTCD | Manual on Uniform Traffic Control Devices |
| RIDOT | Rhode Island Department of Transportation |
| RIDEM | Rhode Island Department of Environmental Management |
| CORPS | Army Corps of Engineers |
| OSHA | Occupational Safety and Health Act |
| NBC | Narragansett Bay Commission |
| UBC | Uniform Building Code |
| UL | Underwriters' Laboratory |
| USCG | United States Coast Guard |
| USEPA | United States Environmental Protection Agency |
- C. Contractor shall, when required, furnish evidence satisfactory to Engineer that materials and methods are in accordance with such standards where so specified.
- D. In the event any questions arise as to the application of these standards or codes, copies shall be supplied on site by Contractor.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 45 00
QUALITY CONTROL

PART 1--GENERAL

1.01 SECTION INCLUDES

- A. Quality Assurance and Control of Installation
- B. References
- C. Field samples
- D. Inspection and testing laboratory services
- E. Manufacturer's field services and reports

1.02 RELATED SECTIONS

31 10 01	Site Preparation
31 10 10	Excavation
31 23 01	Low Hydraulic Conductivity Soil
31 23 05	Base Layer
31 23 23	Vegetative Support Layer
31 25 00	Erosion and Sediment Controls
33 46 01	Composite Drainage Net
33 47 13	Geomembrane Barrier
33 47 14	Geosynthetic Clay Liner
32 92 00	Topsoil and Seed

1.03 SUBMITTALS

- A. Contractor shall submit a Quality Control Plan to Engineer for review and approval a minimum ten (10) calendar days prior to initiating work.

1.04 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step in sequence.
- C. Should manufacturer's instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.05 REFERENCES

- A. Conform to reference standard by date of issue current on date of Contract Documents.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention of inference otherwise in any reference document.

1.06 FIELD SAMPLES

- A. Install and/or prepare field samples at the site for review, as required by individual specification sections.
- B. Acceptable samples represent the quality level for the work.
- C. Where field sample is specified to be removed in individual specification sections, clear area after field sample has been accepted by Engineer.

1.07 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. Submit qualifications of observer to Project Manager 30 calendar days in advance of required observations. Observer subject to approval by Project Manager.
- B. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, testing, adjusting and balance of equipment as applicable, and to provide instructions when necessary.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.

- D. Submit report in duplicate to Project Manager for review, within 30 days of observation.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 45 23
INSPECTION SERVICES

PART 1--GENERAL

1.01 REQUIREMENTS

- A. Contractor agrees to a thorough inspection of the Work including all labor performed and materials furnished, delivered, or intended to be used in the Work, and including manufacture, preparations, and testing at such times as Engineer desires. Contractor shall not use any material that has not been inspected or tested, and accepted. Contractor shall keep Project Manager advised of the progress of the Work away from the site requiring inspection or witnessing of tests, so that arrangements may be made for inspection at the proper time.
- B. Inspection, tests, or acceptance of any material prior to shipment shall not be deemed as a final acceptance of the materials. Project Manager or Engineer may inspect or require tests or analyses of any portion of the materials at any time after delivery to the site, either before or after installation. Any material that is found to be defective or does not otherwise conform to the requirements of the Contract Documents will be rejected and shall be removed from the site, as provided in the Contract.
- C. The performance of such inspections and acceptance of the work by Project Manager or Engineer will in no way release Contractor of his complete responsibility for construction means, methods, and techniques, and for performing the Work in accordance with the Contract Documents.
- D. Certified test results shall be binding on both Contractor and RIRRC, and shall be considered irrefutable evidence of compliance or non-compliance with the Specification requirements, unless supplementary testing shall prove, to the satisfaction of Engineer, that the initial samples were not representative of actual conditions.
- E. Nothing shall restrict Contractor from conducting tests he/she may deem necessary. In order to be reviewed by the Engineer, such test results shall be certified by an independent testing laboratory acceptable to Engineer. Testing of this nature shall be conducted at Contractor's expense.
- F. Contractor shall make area accessible to and assist RIRRC and/or Engineer during routine inspections and site visits.
- G. Contractor shall make site accessible to any regulatory agency having jurisdiction over the Work as determined by permit requirements.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 45 29
TESTING LABORATORY SERVICES

PART 1--GENERAL

1.01 GENERAL

- A. In addition to the tests specified hereinafter, if Project Manager so requires, either prior to beginning or during the progress of the Work, Contractor shall submit samples of materials and certified reports of results of such special tests and analyses as may be necessary to demonstrate conformance to the Specifications. The Contractor will pay for testing laboratories to perform tests of samples unless otherwise specified in the Section 01 10 00 - Summary of Work. These costs are to be included in the lump sum items as specified in Section 01 29 00. Such samples shall be furnished, taken, stored, packed and shipped as directed, at the expense of Contractor.
- B. Contractor shall submit data and samples, or place his/her orders, sufficiently early to permit consideration, inspection, testing, and approval before the materials are necessary for incorporation in the Work. Any delays resulting from his/her failure to do so shall not be used as a basis of a claim against RIRRC.
- C. If Project Manager orders sampling and analyses, or tests of materials which are usually accepted on certification of the Supplier or manufacturer, but which appear defective or not conforming to the requirements of the Specifications, such sampling and analyses or tests will be performed by a laboratory selected by RIRRC. RIRRC shall bear the costs of tests and analyses if the materials are found to be sound and conforming to the Specifications. Contractor shall bear the costs of tests and analysis if the materials are found defective or not conforming to the Specifications.
- D. Tests required or performed by RIRRC shall not relieve Contractor from the responsibility of supplying certificates from manufacturers or Suppliers to demonstrate conformance with the Specifications.
- E. Contractor shall submit names of all firms to be utilized for testing and analytical services for approval by Project Manager. No results or observations will be accepted unless performed by an approved testing firm.

1.02 CERTIFICATES OF MANUFACTURERS

- A. For pipe, valves, and similar materials that are normally tested in the shop by the manufacturer, Contractor shall furnish Project Manager certified records of physical, chemical and other pertinent tests, and/or certified statements from the manufacturer that the materials have been manufactured and tested in conformity with the Specifications. Where such a small quantity of material is required as to make physical tests or chemical analyses impractical, a certificate from the manufacturer stating the results of such tests or analyses of similar materials, which

were concurrently produced, may, at the discretion of Project Manager, be considered as the basis for the acceptance of such materials.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1--GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General, Special, and Supplemental Conditions and other **Division 1** Specification sections, apply to the Work of this section.

1.02 DESCRIPTION OF REQUIREMENTS

- A. This section specifies administrative and procedural requirements for temporary services and facilities, including such items as temporary utility services, temporary construction and support facilities, and project security and protection.
1. No cost or usage charges for temporary services or facilities are chargeable to RIRRC or Engineer. Cost or use charges for temporary services or facilities will not be accepted as a basis of claims for a Change Order.
 2. Temporary utility services which may be used at the Project site include, but are not limited to, the following:
 - Temporary electric power and light
 - Telephone service (only if arrangements are made with appropriate utility provider)
 - Water service
 - Provision for adequate utility capacity at each stage of construction
 - Obtaining and paying for temporary easements required to bring temporary utilities to the Project site where RIRRC's permanent easement cannot be utilized for that purpose.
 3. Temporary construction and support facilities which may be used for the Project include, but are not limited to, the following:
 - Field Office
 - Self-Contained Toilet Unit
 - Temporary roads and paving
 - Dewatering facilities
 4. Alternate temporary services and facilities, equivalent to those specified, may be used, but are subject to acceptance by the Project Manager.
 5. Security and protection facilities and services which may be used for the Project include, but are not limited to, the following:
 - Temporary fire protection

- Barricades, warning signs, lights
 - Environmental protection
 - Physical security, fencing, etc.
6. Alternate security and protection methods or facilities, equivalent to those specified, may be used, subject to acceptance by the Project Manager.

1.03 QUALITY ASSURANCE

- A. The Contractor shall comply with requirements of local laws and regulations governing construction and local industry standards, in the installation and maintenance of temporary services and facilities including, but not limited to, the following:
1. Building Codes, including local requirements for permits, testing, and inspection.
 2. Health and safety regulations.
 3. Utility company regulations and recommendations governing temporary utility services.
 4. Police and Fire Department rules and recommendations.
 5. Police and Rescue Squad recommendations.
 6. Environmental protection regulations governing use of water and energy, and the control of dust, noise, and other nuisances.
- B. The Contractor shall inspect and test each service before placing temporary utilities in use. Arrange for required inspections and tests by governing authorities, and obtain required certifications and permits for use.

1.04 SUBMITTALS

- A. During progress of the Work, the Contractor shall submit copies of reports and permits required by governing authorities, or necessary for installation and efficient operation of temporary facilities.
- B. The Contractor shall submit copies of reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities before, during, and after performance of the documentation necessary for the installation, use, and operation of temporary utility services. Reports and permits required for the use of temporary utility services and their use include, but are not limited to, temporary electric power and light.

1.05 JOB CONDITIONS

- A. The Contractor shall provide each temporary service and facility ready for use at

each location when the service or facility is first needed to avoid delay in performance of the Work. Maintain, expand as required, and modify temporary services and facilities as needed throughout the progress of the Work. Do not remove until services or facilities are no longer needed, or are replaced by the authorized use of completed permanent facilities.

With the establishment of the job progress schedule, establish a schedule for the implementation and termination of service for each temporary utility. At the earliest feasible time, and when acceptable to RIRRC, change over from the use of temporary utility service to the use of the permanent service, to enable removal of the temporary utility and to eliminate possible interference with completion of the Work.

- B. The Contractor shall operate temporary services and facilities in a safe and efficient manner. Do not overload temporary services or facilities, and do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the site.
- C. The Contractor shall not permit the freezing of pipes, flooding, or the contamination of water sources.
- D. The Contractor shall maintain temporary facilities in such a manner as to prevent discomfort to users. Take necessary fire prevention measures. Maintain temporary support facilities in a sanitary manner so as to avoid health problems and other deleterious effects.
- E. The Contractor shall maintain site security and protection facilities in a safe, lawful, and publicly acceptable manner. Take necessary measures to prevent erosion of the site and to prevent sediment from leaving the site.

PART 2--PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. The Contractor shall provide new materials and equipment for temporary services and facilities. Used materials and equipment that are undamaged and in serviceable condition may be used, if acceptable to Engineer. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.
- B. Where the utility company provides only a portion of the temporary utility, the Contractor shall provide the remainder with matching, compatible materials, and equipment. Comply with the utility company's recommendations.
- C. The Contractor shall comply with applicable NEMA, NECA, and UL standards and governing regulations for materials and layout of temporary electric service.
- D. The Contractor shall provide facilities that can be maintained properly throughout their use at the Project site.

- E. The Contractor shall provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the fuel being consumed.
- F. For temporary offices, storage sheds, and similar construction, the Contractor shall provide either standard prefabricated or mobile units or the equivalent job-built construction. Provide insulated, weather tight units, heated units, air-conditioned where required, lighted entrances, operable window, roofing, foundations adequate for normal loading, including wind loads, serviceable finishes, and mechanical and electrical equipment necessary to achieve ambient conditions required.
- G. The Contractor shall provide single-occupant, self-contained toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber, reinforced polyester shell, or similar non-absorbent material.
- H. The Contractor shall comply with governing health and safety regulations and recognized recommendations within the construction industry.
- I. SECURITY AND PROTECTION FACILITIES
 - 1. FIRE EXTINGUISHER: Type "ABC" dry chemical extinguisher, or a combination of several extinguishers of NFPA recommended types of sufficient size for the structures and equipment to be utilized.
 - 2. PLYWOOD for fences and vision barriers; provide exterior type, minimum 3/8" thick plywood, prime and finish painted. For safety barriers, sidewall bridges and similar direct-contact uses provide minimum 5/8" thick exterior plywood, prime and finish painted.
 - 3. OPEN MESH FENCING: Provide No. 11 gage, galvanized chain-link fabric fencing, minimum 8 feet high, with galvanized barbed wire top strand and galvanized steel pipe posts, 1 1/2" I.D. for line posts, and minimum 2 1/2" I.D. for corner posts.

PART 3 - EXECUTION

3.01 INSTALLATION GENERAL

- A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire Project adequately and result in minimum interference with the performance of the Work.
- B. Relocate, modify, and extend services and facilities as required during the course of Work so as to accommodate the entire Project.

3.02 TEMPORARY UTILITY INSTALLATION

- A. The Contractor shall engage the local utility company to install temporary service to the Project or to make connections to existing service. Arrange with the companies

and existing users for an acceptable time when service can be interrupted, where necessary, to make connections for temporary services.

B. TEMPORARY ELECTRIC POWER SERVICE

1. Provide a weatherproof, grounded, temporary electric power service and distribution system of sufficient size, capacity, and characteristics to accommodate performance of work during the construction period.
2. Install service and grounding in compliance with the National Electric Code (NFPA 70). Include necessary meters, transformers, overload protected disconnect and main distribution switchgear:
 - a. Install electric power service underground except where overhead service must be used to avoid construction conflicts or to comply with governing regulations.
 - b. Connect temporary service to the local electric power company main in the manner directed by company officials. Pay usage charges, whether metered or otherwise, for electricity used by all entities authorized to be at or to perform usage at the site.
 - c. Provide temporary service with an automatic ground-fault interrupter activated from the circuits of the systems.
3. Provide circuits of adequate size and proper characteristics for each use. In general, run wiring underground, and rise vertically where wiring will be least exposed to damage from construction operations. Provide rigid steel conduit or equivalent raceways for wiring, which must be exposed on grade, floors, decks or other areas of possible damage or abuse:
 - a. Provide metal conduit, tubing or armored cable for protection of temporary power wiring where exposed to possible damage during construction operations. Where permitted by code, wiring of circuits not exceeding 110-120 volts 20 amp rating, and wiring of lighting circuits may be non-metallic sheathed cable in areas where located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide metal enclosures or boxes for wiring devices.
 - b. Provide overload protected disconnect switch for each temporary circuit and each temporary lighting circuit, located at the power distribution center.

C. TEMPORARY TELEPHONES

1. Arrange for the local telephone company to install temporary telephone service in the field office.

3.03 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A.** The Contractor shall provide a reasonably neat and uniform appearance in temporary

construction and support facilities acceptable to RIRRC.

1. Locate field offices, storage and fabrication sheds, and other support facilities for easy access to the Work. Position offices so that windows give the best possible view of construction activities.
2. Except as otherwise indicated, make the change-over from use of temporary services and facilities to use of permanent service and facilities at the earliest feasible date, to minimize hazards and interferences with performance of the Work.
3. Maintain field offices, storage and fabrication sheds, temporary sanitary facilities, waste collection and disposal systems, and project identification and temporary signs until near substantial completion. Immediately prior to substantial completion remove these facilities. Personnel remaining at the site beyond this time may use certain permanent facilities, under restricted use conditions acceptable to RIRRC.

B. TEMPORARY ROADS

1. To the fullest extent possible, the Contractor shall locate temporary roads, storage areas, and temporary parking in the same location as permanent facilities for similar uses:
 - a. Provide temporary traffic control facilities at the junction of temporary roads with public roads, including warning signs for public traffic and "STOP" signs for the access road entrance onto public roads. Comply with requirements and recommendations of local traffic authorities.
 - b. Provide a reasonable level-graded and well-drained subgrade of satisfactory soil material, well compacted to not less than 95% of maximum dry density in the top 6".
 - c. Provide gravel paving course of well-graded sub-base material not less than 3" thick, roller compacted to a level, smooth, dense surface.
 - d. Provide a dust control treatment consisting of calcium chloride or other approved compound that is known to be non-polluting and non-tracking.
 - e. Provide paving of temporary roads with asphalt concrete, as necessary, to minimize problems from surface water drainage and dust.

C. COLLECTION AND DISPOSAL OF WASTE

1. The Contractor shall establish a system for daily collection and disposal of waste materials from construction areas and elsewhere on the site and enforce requirements strictly. Do not hold collected materials at the site longer than 7 days during normal weather or 3 days when the daily temperature is expected to rise above 80 degrees Fahrenheit (27 degrees Celsius). Handle waste materials that are hazardous, dangerous, or unsanitary separately from other inert waste by containerizing appropriately. Dispose of waste material in a lawful manner.

3.04 SECURITY AND PROTECTION OF FACILITIES AND INSTALLATIONS

A. BARRICADES, WARNING SIGNS AND LIGHTS

1. The Contractor shall comply with recognized standards and code requirements for the erection of substantial, structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics, and warning signs to inform personnel at the site and the public, of the hazard being protected against. Provide lighting where appropriate and needed, including flashing red light where appropriate.
2. The Contractor shall provide general protection facilities, operate temporary facilities, conduct construction activities, and enforce strict discipline for personnel on the site in a way and by methods that comply with environmental regulations, and that minimize the possibility that air, water, and soil might be contaminated or polluted, or that other undesirable effects might result from the performance of work at the site. Use tools, methods, and equipment that will minimize noise complaints from persons or firms near the project site.

3.05 OPERATION, TERMINATION, AND REMOVAL

- A. The Contractor shall enforce strict discipline in use of temporary services and facilities to essential and intended use to minimize waste and abuse. Do not permit temporary installations to be abused or endangered. Do not allow hazardous, dangerous, or unsanitary conditions to develop or persist on the Project site.
- B. The Contractor shall operate and maintain temporary services and facilities in good operating condition throughout the time of use and until removal is authorized. Protect from damage by freezing temperatures and similar elements.
 1. Maintain the operation of outlet structures, piping, temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour day basis where required, to achieve indicated results in the Work and to avoid the possibility of damage to the Work or to temporary facilities.
- C. The Contractor shall prevent water filled piping from freezing, by use of ground covers, insulation, by keeping drained or by temporary heating. Maintain distinct markers for underground lines. Protect from damage during excavation operations.
- D. Unless the RIRRC requests that it be maintained for a longer period of time, The Contractor shall remove each temporary service and facility promptly when the need for it or a substantial portion of it has ended, or when it has been replaced by the authorized use of a permanent facility, or no later than Substantial Completion. Complete, or if necessary, restore permanent work, which may have been delayed because of interference with the temporary service of facility. Repair damaged Work, clean exposed surfaces and replace Work, which cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary services and facilities are and remain the property of Contractor.
2. Remove temporary roads and paving materials, which are not intended for or acceptable for integration into permanent paving. Where the area shown is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the landscape area. Remove materials contaminated with road oil, asphalt, and other petrochemical compounds and other substances, which might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
3. At Substantial Completion, clean and renovate permanent surfaces and facilities that have been used to provide temporary services and facilities during the construction period.

****END OF SECTION****

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Equipment electrical characteristics and components.

1.02 PRODUCTS

- A. At minimum, comply with specified requirements and reference standards.
- B. Specified products define standard of quality, type, function, dimension, appearance, and performance required.
- C. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.
- D. Domestic Products: Except where specified otherwise, domestic products are required and interpreted to mean products mined, manufactured, fabricated, or produced in United States or its territories.
- E. Do not use materials and equipment removed from existing premises except as specifically permitted by Contract Documents.
- F. Furnish interchangeable components from same manufacturer for components being replaced.

1.03 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products according to manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.

- C. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.04 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products according to manufacturer's instructions.
- B. Store products with seals and labels intact and legible.
- C. Store sensitive products in weather-tight, climate-controlled enclosures in an environment suitable to product.
- D. For exterior storage of fabricated products, place products on sloped supports aboveground.
- E. Provide bonded off-Site storage and protection when Site does not permit on-Site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.05 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Products complying with specified reference standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 01 33 00 - Submittals.

PART 2 - PRODUCTS

2.01 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.
- B. Cord and Plug: Furnish minimum 6-foot long cord and plug including grounding connector for connection to electric wiring system. Cord of longer length may be specified in individual Specification Sections.

PART 3 - EXECUTION - Not Used

****END OF SECTION****

SECTION 01 65 00
SHIPMENT, PROTECTION AND STORAGE

PART 1--GENERAL

1.01 DESCRIPTION

- A. Equipment, products and materials shall be shipped, handled, stored, and installed in ways which will prevent damage to the items. Damaged items will not be permitted as part of the work except in cases of minor damage that have been satisfactorily repaired and are acceptable to RIRRC and/or Engineer.
- B. Equipment and construction materials may be brought to the site at any time during working hours. The Contractor must be available to accept and sign for all deliveries.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION

3.01 PIPE

- A. Pipe and appurtenances shall be handled, stored, and installed as recommended by the manufacturer. Pipes with paint, tape coatings, linings or the like shall be stored to protect the coating or lining from physical damage or other deterioration. Pipes shipped with interior bracing shall have the bracing removed only when recommended by the pipe manufacturer.

3.02 EQUIPMENT

- A. All equipment shall be protected against damage from moisture, dust, handling, or other cause during transport from manufacturer's premises to site. Each item or package shall be marked with the number unique to the specification reference covering the item. Stiffeners shall be used where necessary to maintain shapes and to give rigidity. Parts of equipment shall be delivered in assembled or subassembled units where possible.
- B. Each item of equipment and valve shall have permanently affixed to it a label or tag with its equipment or valve number designated in this Contract, or as approved by the Engineer. Marker shall be of stainless steel. Location of label shall be easily visible.
- C. Bearing housings, vents, and other types of openings shall be wrapped or otherwise sealed to prevent contamination by grit and dirt. Damage shall be corrected to conform to the requirements of the contract before the assembly is incorporated into

the work. The Contractor shall bear the costs arising out of dismantling, inspection, repair, and reassembly.

- D. Unless otherwise specified, each item of equipment shall be shipped to the site of the work with the manufacturer's shop applied epoxy prime coating. The prime coating shall be applied over clean dry surfaces in accordance with the coating manufacturer's recommendations. The prime coating will serve as a base for field-applied finish coats. Electrical equipment and materials shall be painted by manufacturer.
- E. During the interval between the delivery of equipment to the site and installation, all equipment, unless otherwise specified, shall be stored in an enclosed space affording protection from weather, dust and mechanical damage and providing favorable temperature, humidity and ventilation conditions to ensure against equipment deterioration. Manufacturer's recommendations shall be adhered to in addition to these requirements.

Equipment and materials to be located outdoors may be stored outdoors if protected against moisture condensation or any other damage. Equipment shall be stored at least 6 inches above ground. Temporary power shall be provided to energize space heaters or other heat sources for control of moisture condensation. Space heaters or other heat sources shall be energized without disturbing the sealed enclosure.

- F. After installation, all equipment shall be protected from damage from, including but not limited to, dust, abrasive particles, debris and dirt generated by the placement, chipping, sandblasting, cutting, finishing and grinding of new or existing concrete, terrazzo and metal; and from the fumes, particulate matter, and splatter from welding, brazing and painting of new or existing piping and equipment. As a minimum, vacuum cleaning, blowers with filters, protective shieldings, and other dust suppression methods will be required at all times to adequately protect all equipment. During concreting, including finishing, all equipment that may be affected by cement dust must be completely covered. During painting operations, all grease fittings and similar openings shall be covered to prevent the entry of paint. Electrical switchgear, unit substation, and motor load centers shall not be installed until after all concrete work and sandblasting in those areas have been completed and accepted and the ventilation systems installed.

****END OF SECTION****

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Field engineering.
- B. Closeout procedures.
- C. Starting of systems.
- D. Demonstration and instructions.
- E. Testing, adjusting, and balancing.
- F. Project record documents.
- G. Operation and maintenance data.
- H. Manual for materials and finishes.
- I. Manual for equipment and systems.
- J. Spare parts and maintenance products.
- K. Product warranties and product bonds.
- L. Maintenance service.
- M. Examination.
- N. Preparation.
- O. Execution.
- P. Cutting and patching.
- Q. Protecting installed construction.
- R. Final cleaning.

1.02 FIELD ENGINEERING

- A. Contractor will locate survey control and reference points. Promptly notify Engineer of discrepancies discovered.

- B. Control datum for survey is indicated on Drawings.
- C. Verify setbacks and easements; confirm Drawing dimensions and elevations.
- D. Maintain complete and accurate log of control and survey Work as Work progresses.
- E. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.
- F. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.
- H. Final Survey: Prior to Substantial Completion, prepare final survey illustrating locations, dimensions, angles, and elevations of Site Work that have resulted from construction indicating their relationship to permanent bench marks and property lines.
 - 1. Show significant features for Project.
 - 2. Include certification on survey, signed by surveyor, that principal metes, bounds, lines, levels, and elevations of Project are accurately shown.

1.03 CLOSEOUT PROCEDURES

- A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:
 - 1. Submit maintenance manuals, Project record documents, and other similar final record data in compliance with this Section.
 - 2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to RIRRC's operating and maintenance personnel as specified in compliance with this Section.
 - 3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
 - 4. Obtain and submit releases enabling RIRRC's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
 - 5. Deliver tools, spare parts, extra stocks of material, and similar physical items to RIRRC.
 - 6. Make final change-over of locks and transmit keys directly to RIRRC. Advise RIRRC's personnel of change-over in security provisions.

7. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
8. Perform final cleaning according to this Section.

B. Substantial Completion Inspection:

1. When Contractor considers Work to be substantially complete, submit to Engineer:
 - a. Written certificate that Work, or designated portion, is substantially complete.
 - b. List of items to be completed or corrected (initial punch list).
2. Within seven days after receipt of request for Substantial Completion, Engineer will make inspection to determine whether Work or designated portion is substantially complete.
3. Should Engineer determine that Work is not substantially complete:
 - a. Engineer will promptly notify Contractor in writing, stating reasons for its opinion.
 - b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Engineer.
 - c. Engineer will reinspect Work.
 - d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer's inspection.
4. When Engineer finds that Work is substantially complete, Engineer will:
 - a. Prepare Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified and amended by Engineer and RIRRC (final punch list).
 - b. Submit Certificate to RIRRC and Contractor for their written acceptance of responsibilities assigned to them in Certificate.
5. After Work is substantially complete, Contractor shall:
 - a. Allow RIRRC access to Project under provisions stated in Certificate of Substantial Completion.
 - b. Complete Work listed for completion or correction within time period stipulated.

C. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.

1. When Contractor considers Work to be complete, submit written certification that:

- a. Contract Documents have been reviewed.
 - b. Work has been examined for compliance with Contract Documents.
 - c. Work has been completed according to Contract Documents.
 - d. Work is completed and ready for final inspection.
2. Submittals: Submit following:
- a. Final punch list indicating all items have been completed or corrected.
 - b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
 - d. Accounting statement for final changes to Contract Sum.
 - e. Contractor's affidavit of payment of debts and claims.
 - f. Contractor affidavit of release of liens.
3. Perform final cleaning for Contractor-soiled areas according to this Section.

D. Final Completion Inspection:

- 1. Within seven days after receipt of request for final inspection, Engineer will make inspection to determine whether Work or designated portion is complete.
- 2. Should Engineer consider Work to be incomplete or defective:
 - a. Engineer will promptly notify Contractor in writing, listing incomplete or defective Work.
 - b. Contractor shall remedy stated deficiencies and send second written request to Engineer that Work is complete.
 - c. Engineer will reinspect Work.
 - d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer's inspection.

1.04 STARTING OF SYSTEMS

- A. Coordinate schedule for startup of various equipment and systems.
- B. Notify RIRRC seven days prior to startup of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify that tests, meter readings, and electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.

- F. Execute startup under supervision of manufacturer's representative or Contractors' personnel according to manufacturer's instructions.
- G. When specified in individual Specification Sections, require manufacturer to provide authorized representative who will be present at Site to inspect, check, and approve equipment or system installation prior to startup and will supervise placing equipment or system in operation.
- H. Submit a written report according to Section 01 33 00 - Submittals that equipment or system has been properly installed and is functioning correctly.

1.05 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to RIRRC's personnel one week prior to date of final inspection.
- B. Demonstrate Project equipment instructed by qualified manufacturer's representative who is knowledgeable about the Project.
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with RIRRC's personnel in detail to explain all aspects of operation and maintenance.
- D. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time at equipment location.
- E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- F. Required instruction time for each item of equipment and system is specified in individual Specification Sections.

1.06 TESTING, ADJUSTING, AND BALANCING

- A. RIRRC will appoint, employ, and pay for services of independent firm to perform testing, adjusting, and balancing.

1.07 PROJECT RECORD DOCUMENTS

- A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.

4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, product data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by RIRRC.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates used.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
 2. Include locations of concealed elements of the Work.
 3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
 4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
 5. Identify and locate existing buried or concealed items encountered during Project.
 6. Measured depths of foundations in relation to finish **[first]** **[main]** floor datum.
 7. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 8. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 9. Field changes of dimension and detail.
 10. Details not on original Drawings.
- G. Submit marked-up paper copy documents to Engineer with claim for final Application for Payment.
- H. Submit PDF electronic files of marked-up documents to Engineer with claim for final Application for Payment.

1.08 OPERATION AND MAINTENANCE DATA

- A. Submit in PDF composite electronic indexed file.

- B. Submit data bound in 8-1/2 x 11-inch (A4) text pages, three D side ring binders with durable plastic covers.
- C. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of Project, and subject matter of binder when multiple binders are required.
- D. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- F. Contents: Prepare table of contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Engineer, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - g. Safety precautions to be taken when operating and maintaining or working near equipment.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop Drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photocopies of warranties and bonds.

1.10 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by RIRRC, submit documents within ten days after acceptance.

- C. Submit one copy of completed volumes before Substantial Completion. Draft copy will be reviewed and returned after Substantial Completion, with Engineer comments. Revise content of document sets as required prior to final submission.
- D. Submit two sets of revised final volumes within ten days after final inspection.
- E. Submit in PDF composite electronic indexed file of final manual within ten days after final inspection.
- F. Each Item of Equipment and Each System: Include description of unit or system and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- G. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; by label machine.
- H. Include color-coded wiring diagrams as installed.
- I. Operating Procedures: Include startup, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.
- J. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- K. Include servicing and lubrication schedule and list of lubricants required.
- L. Include manufacturer's printed operation and maintenance instructions.
- M. Include sequence of operation by controls manufacturer.
- N. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- O. Include control diagrams by controls manufacturer as installed.
- P. Include Contractor's coordination drawings with color-coded piping diagrams as installed.
- Q. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- R. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- S. Additional Requirements: As specified in individual product Specification Sections.

- T. Include listing in table of contents for design data with tabbed dividers and space for insertion of data.

1.11 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specification Sections.
- B. Deliver to Project Site; obtain receipt prior to final payment.

1.12 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. The text of this Article applies only to extended transferable warranties beyond one year.
- B. Obtain warranties and bonds executed by responsible Subcontractors, suppliers, and manufacturers within **ten** days after completion of applicable item of Work.
- C. Execute and assemble transferable warranty documents and bonds from Subcontractors, suppliers, and manufacturers.
- D. Verify documents are in proper form, contain full information, and are notarized.
- E. Co-execute submittals when required.
- F. Include table of contents and assemble in three D side ring binder with durable plastic cover.
- G. Submit prior to final Application for Payment.
- H. Time of Submittals:
 - 1. For equipment or component parts of equipment put into service during construction with RIRRC's permission, submit documents within ten days after acceptance.
 - 2. Make other submittals within ten days after date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual Specification Sections.
- D. Verify that utility services are available with correct characteristics and in correct locations.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.03 EXECUTION

- A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.
- B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.
- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - 1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.

2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
 3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Engineer for final decision.
- E. Allow for expansion of materials and building movement.
- F. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.
1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
 2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.
- G. Mounting Heights: Where not indicated, mount individual units of Work at industry recognized standard mounting heights for particular application indicated.
1. Refer questionable mounting heights choices to Engineer for final decision.
 2. Elements Identified as Accessible to Handicapped: Comply with applicable codes and regulations.
- H. Adjust operating products and equipment to ensure smooth and unhindered operation.
- I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

3.04 CUTTING AND PATCHING

- A. Employ skilled and experienced installers to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
1. Structural integrity of element.
 2. Integrity of weather-exposed or moisture-resistant elements.
 3. Efficiency, maintenance, or safety of element.
 4. Visual qualities of sight-exposed elements.
 5. Work of RIRRC or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill to complete Work and to:
1. Fit the several parts together, to integrate with other Work.
 2. Uncover Work to install or correct ill-timed Work.
 3. Remove and replace defective and nonconforming Work.

4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.
 - E. Cut masonry and concrete materials using masonry saw or core drill.
 - F. Restore Work with new products according to requirements of Contract Documents.
 - G. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.
 - H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
 - I. At penetrations of fire-rated walls, partitions, ceiling, or floor construction, completely seal voids with fire-rated material, to full thickness of penetrated element.
 - J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
 - K. Identify hazardous substances or conditions exposed during the Work to Engineer for decision or remedy.

3.05 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual Specification Sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Use durable sheet materials to protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

3.06 FINAL CLEANING

- A. Execute final cleaning prior to final Project assessment.
 - 1. Employ experienced personnel or professional cleaning firm.
- B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces.
- C. Clean equipment and fixtures to sanitary condition with appropriate cleaning materials.
- D. Clean filters of operating equipment.
- E. Clean Site; sweep paved areas, rake clean landscaped surfaces.
- F. Remove waste and surplus materials, rubbish, and construction facilities from Site.

****END OF SECTION****

SECTION 01 73 33
RESTORATION OF IMPROVEMENTS

PART 1--GENERAL

1.01 STRUCTURES

- A. The Contractor shall take all precautions necessary to protect the integrity and usefulness of all existing site facilities. If necessary, the Contractor may, with the approval of RIRRC, remove such existing structures, including curbs, gutters, pipe-lines, utility poles, and fences as may be necessary for the performance of the work, and shall rebuild the structures thus removed in as good a condition as found with the requirements specified. He shall also repair existing structures which may be damaged as a result of the work under this contract.

1.02 ROADS AND STREETS

- A. Unless otherwise specified, roads and streets in which the surface is removed, broken, or damaged, or in which the ground has caved or settled during the work under this contract, shall be resurfaced and brought to the original grade and section. Roadways used by the Contractor shall be cleaned and repaired. Before resurfacing material is placed, edges of pavements shall be trimmed back far enough to provide clean, solid, vertical faces, and shall be free of loose material. All paved surfaces shall be cut with a pavement saw. Rough cuts are not allowed. Repair work shall conform to paving specifications and drawings.

1.03 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS

- A. Cultivated or planted areas and other surface improvements which are damaged by actions of the Contractor shall be restored as nearly as possible to their original condition. Restoration shall take place within 1 week or sooner as directed by the Project Manager.
- B. Existing guard posts, barricades, and fences shall be protected and replaced if damaged.

1.04 PROTECTION OF EXISTING INSTALLATIONS

- A. The Contractor shall protect all existing operating facilities and structures from damages. However, if damage occurs, the Contractor shall immediately correct or replace existing equipment, controls, systems, structures, or facilities which are damaged in any way as a result of his operations.

PART 2--PRODUCTS (Not Used)

PART 3--EXECUTION (Not Used)

****END OF SECTION****

SECTION 01 78 29
AS-BUILT DRAWINGS

PART 1--GENERAL

1.01 WORK INCLUDED

- A. The work under this section shall include the transmittal to the RIRRC and the Project Manager of all applicable data relative to as-built conditions as may be required in the Contract Documents.
- B. The specific required items listed within this Section are not inclusive of all the as-built requirements that the Contractor must provide as specified throughout the technical specifications and the drawings.

PART 2--PRODUCTS

2.01 As-Built information as specified

- 2.02 The Contractor shall utilize RIRRC's current survey control site information and may use the existing site Trimble Base Station for generation of as-built drawing and survey control.

PART 3--EXECUTION

3.01 MARKED-UP PRINTS

- A. The Contractor will be provided with an extra copy of the contract design drawings to be used for indicating the locations, elevations, and other conditions of installed pipes, structures, and appurtenances.
- B. The Contractor shall also indicate on the prints the locations and elevations of all existing utilities, structures, and appurtenances encountered during the work which are different from those specified on the drawings, or in these specifications.
- C. The marked-up prints shall be kept up to date on a daily basis and shall be available for inspection at all times.
- D. Marked-up prints shall, as a rule, be kept in a safe location by the Contractor
- E. All markings on the prints shall be done neatly with the following color code:

Additions - Red
Deletions - Green
Comments - Blue
Dimensions - Graphite

- F. The marked-up prints shall become the property of the RIRRC upon completion of the Work. Marked-up prints shall be submitted to RIRRC prior to final payment.

3.02 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Contract Drawings and Specifications.
- B. CONSTRUCTION TOLERANCES - Unless otherwise stated herein, construction tolerances shall be +0.2 feet horizontally, and +0.1 feet vertically. All surfaces shall be reasonably free from irregularities. Slopes or grades shall not be less than specified minimums nor greater than specified maximums as shown on the Drawings. Thicknesses of soil components shall be no less than specified and/or shown on the Drawings.

3.03 AS-BUILT DRAWINGS

- A. The Contractor shall provide additional sheets at increased scale, as necessary, to provide the as-built information with clarity. The Contractor shall also provide all as-built information in electronic media format developed in CAD (AutoCAD 2011 or later), using the Project Site Coordinate System based upon the current survey control site information and Trimble Base Station, and be at a scale not smaller than 1 inch = 50 feet. The CAD as-builts shall be stamped by a Rhode Island Professional Land Surveyor, as specified by the respective technical specifications sections.

****END OF SECTION****

DIVISION 2
TECHNICAL SPECIFICATIONS

SECTION 31 10 01
SITE PREPARATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Specification sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limited to: hauling, grading, drying, removal of storm water, removal of unsuitable materials, protection of installed materials, and all work incidental to site preparation activities, as specified herein and on the Contract Drawings.
- B. Prepare site only after adequate erosion and sediment controls are in place. Limit areas exposed uncontrolled to erosion during installation of temporary erosion and sediment controls to maximum of 1/2 acres.

1.03 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Contract Drawings and these Specifications.
- B. CONSTRUCTION TOLERANCES - Unless otherwise stated herein, construction tolerances shall be +0.2 feet horizontally, and +0.1 feet vertically. All surfaces shall be reasonably free from irregularities. Slopes or grades shall not be less than specified minimums nor greater than specified maximums as shown on the Drawings. Thicknesses of soil components shall be no less than specified and/or shown on the Drawings.

PART 2 - PRODUCTS

NOT APPLICABLE.

PART 3 – EXECUTION

3.01 MAINTENANCE OF GRADING

- A. Repair any settlement, washouts, or other disturbances that occur prior to acceptance of work. Re-establish all grades to required elevations and slopes.
- B. Scarify, reshape, and compact all areas disturbed by subsequent operations or adverse weather.

3.02 PROTECTION OF EXISTING MATERIALS

- A. Prior to start of construction, the CONTRACTOR shall verify all existing utilities that may be encountered during the construction of the work required under this contract. Existing utilities shall be confirmed by excavation and survey where necessary, to confirm the presence of and horizontal and vertical location relative to the project work. The OWNER and ENGINEER shall be notified of any discrepancies from the design drawings. The CONTRACTOR shall contact the appropriate utility company within the required timeframe prior to excavating, for field verification and/or approval.
- B. Equipment used to access the proposed work area will be required to be Low Ground Pressure (LGP) Equipment. The LGP equipment must meet the allowable equipment ground pressure requirements based on the soil thicknesses outlined in the table below:

Allowable Equipment Ground Pressure (psi)	Required Minimum Thickness of Soil Above Geosynthetics (in.)
< 5	12
< 10	18
< 20	24
> 20	36

For equipment exceeding the ground pressure requirements or that are not LGP, the CONTRACTOR shall construct 3-foot-thick gravel access roads above the existing final cover geosynthetics and landfill gas collection system piping to gain access to the proposed repair area

3.03 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.
- B. In the event of damage to prior work or work completed as specified in this Section, the CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of the OWNER, and at no additional cost to the OWNER.

****END OF SECTION****

SECTION 31 10 10
EXCAVATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Specification sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limiting to: excavation, disposal of excess and unsuitable materials, hauling, stockpiling, filling, screening of material to make suitable for filling, and all work incidental to the excavation as specified herein and as indicated on the Drawings.
- B. Locate all existing utilities in work areas prior to commencing any excavation activities. The CONTRACTOR shall be responsible for preserving and protecting all utilities and contacting the appropriate utility locating service. Prior to start of construction, the CONTRACTOR shall verify all existing utilities that may be encountered during Construction.

1.03 RELATED WORK

- A. Section 31 10 01 – Site Preparation

1.04 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Drawings and these Specifications.

1.05 CLASSIFICATION OF EARTHWORK

- A. All earthwork shall be unclassified; consequently, the bid price shall be taken to include all materials required to excavate, handle or compact whether wet or dry and regardless of the character of the materials, screening, hauling and stockpiling, and disposal of unsuitable materials.
- B. All removal of rocks and waste material shall be considered incidental and part of the project work and excavation.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Excavation shall mean the removal from place all materials encountered, including, but not limited to stockpiles within the project area, and shall include soil, low hydraulic conductivity

soil, structures, rock, topsoil, waste material, rubbish, or organic material such as peat, humus or organic silt.

- B. Any excess material as a result of excavation from the project shall remain on the property of the OWNER and shall not leave the site, unless specified by the owner. The CONTRACTOR shall place excess material in designated location to be determined by OWNER, on the OWNER's premises.
- C. Muck excavation shall mean the excavation and removal of soft, wet unsuitable subgrade material to the depth as directed by the OWNER, or CQA CONSULTANT.

PART 3 – EXECUTION

3.01 GENERAL

- A. Drawings and general provisions of the Contract, including Division 1 – General Specification sections, apply to the work of this Section.

3.02 EXCAVATION

- A. Excavation shall be carried to the dimensions indicated on the Drawings or as directed by the OWNER or CQA CONSULTANT to provide sufficient clearance for the construction and inspection of the material to be installed.
- B. CONTRACTOR shall review all existing underground utilities with the OWNER that is located in or near the project work area. Drawings may not fully depict all existing underground utilities in area of excavations. Any deviations from the design drawings shall be brought to the attention of the OWNER and ENGINEER. Additional work required due to unknown conditions or utilities shall be considered incidental to the project unit price per pay item. Excavated materials will be segregated and placed in designated fill areas or stockpile areas on the site for re-use or processing, as directed by OWNER.
- C. Excavations carried below the depths shown, specified or required, shall be refilled to the proper grade with thoroughly compacted common fill material at no additional expense to the OWNER.
- D. Excavations shall be performed so as to prevent damage to existing structures, geosynthetics, safeguard people and property, minimize traffic inconvenience, protect the structures to be installed, and provide safe working conditions.
- E. Excavations, where needed, shall be adequately sheeted and braced with approved shoring methods. Any excavations that require shoring shall be the CONTRACTOR's responsibility and be considered incidental to the project unit price per pay item. Where the installation of sheeting is impractical or might cause damage as a result of, but not limited to, vibration, settlement or lateral movement, other methods shall be utilized and considered incidental to the excavation needed.

- F. Waste excavation may be required by the CONTRACTOR to meet tie-in grades and locations at previously capped or lined landfill areas. CONTRACTOR should assume a waste excavation or soil excavation depth of four (4) feet at these locations as the standard for the respective bid items. Excavations shall be at a maximum slope of 2H: 1V. Any geosynthetic tie-in areas which require waste or soil excavation depth in excess of four feet will be categorized as a separate bid item. See Measurement and Payment Section 01 29 00.
- G. Any and all excavation and stockpiling shall not interfere with OWNER's ongoing operations, access, and traffic to OWNER's costumers. The CONTRACTOR shall make necessary provisions and arrangements to make all existing roads passible at all times or provide alternate temporary access at no additional cost to the OWNER. CONTRACTOR may be allowed to close access with the permission of the OWNER if conduct work after normal operating hours of the Central Landfill facility.

3.03 STRIPPING AND STOCKPILING OF TOPSOIL

- A. CONTRACTOR shall strip any topsoil materials from all final cover repair areas and tie in locations. Avoid mixing topsoil materials with other soils and stockpile in areas on the site approved by the OWNER. Topsoil materials shall be stockpiled and protected until it is placed for surface restoration efforts as specified under the applicable section of these Specifications. Any topsoil materials remaining after all Work is completed shall remain at the site in stockpiles as directed by the OWNER, and will remain property of the OWNER.

3.04 MAINTENANCE OF GRADING

- A. Repair any settlement or washouts that occur prior to acceptance of work. Re-establish all grades to required elevations and slopes.
- B. Scarify, reshape and compact all areas disturbed by subsequent operations or adverse weather.
- C. Excavations shall be performed so as to prevent damage to existing structures, geosynthetics, safeguard people and property, minimize traffic inconvenience, protect the structures to be installed, and provide safe working conditions.
- D. Excavations, where needed, shall be adequately shored, sheeted and/or braced, in compliance with all applicable codes. Where the installation of sheeting is impractical or might cause damage as a result of, but not limited to, vibration, settlement or lateral movement, other methods shall be utilized, and will be considered incidental to the excavation.

3.05 DISPOSAL

- A. CONTRACTOR shall haul any and all suitable excess excavated and processed materials to OWNER designated locations on site and will remain property of the OWNER.

3.06 PROTECTION OF INSTALLED MATERIALS

- A. CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.

- B. In the event of damage to prior work or work completed as specified in this Section, CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of OWNER, and at no additional cost to OWNER.

****END OF SECTION****

SECTION 31 23 01
LOW HYDRAULIC CONDUCTIVITY SOIL

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Division 1 – General Specification sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limited to: hauling, grading, drying, removal of compost and unsuitable material which covers OWNER's supply of clay, removal of storm water controls, and all work incidental to the hauling, cleaning, and proper installation of the Low Hydraulic Conductivity Soil Layer, as specified herein and as indicated on the Drawings.
- B. Prepare and submit to OWNER a written plan describing Clay Soil screening/picking, wetting, installation, and protection of installed materials. The plan shall include equipment and manpower estimates and a description of construction controls. The plan shall be submitted to OWNER at least 2 weeks prior to CONTRACTOR beginning installation of the Low Hydraulic Conductivity Soil Layer.
- C. CONTRACTOR will use OWNER supplied clay soil, which is located in OWNERS stockpiles at multiple areas around the property. CONTRACTOR will be responsible for clearing unsuitable materials from top surface of clay stockpile and within the stockpile, dewatering if necessary, and hauling clay soil to the area of OU1 existing cap repair.
- D. CONTRACTOR is responsible for conducting pre-construction and construction testing on representative samples of the OWNER supplied Low Hydraulic Conductivity Soil Layer, by a qualified geotechnical laboratory.

1.03 RELATED WORK

- A. Section 31 23 05 – Base Layer
- B. Section 33 47 13 - Geomembrane

1.04 PRE-CONSTRUCTION TESTING REQUIREMENTS

- A. CONTRACTOR shall retain the services of an independent qualified geotechnical laboratory to conduct pre-construction tests on samples of the Low Hydraulic Conductivity Soil Layer.
- B. CONTRACTOR shall conduct a minimum of one grain size/hydrometer (ASTM D422), one moisture content test (ASTM D2216), one Atterberg limit test (ASTM D4318), one modified proctor test (ASTM D1557), one permeability test (ASTM D5084) and one direct shear test (ASTM D3080) on a representative sample of each source of Low Hydraulic Conductivity Soil

Layer. This testing shall be conducted so results are received at least two weeks prior to the start of work, or if an off-site source then prior to the delivery of the soil to the project site. The results of off-site source testing shall be coordinated with the CONTRACTOR and submitted for approval a minimum of 5 days before the delivery of the soil to the project site.

- C. CONTRACTOR shall conduct interface shear tests (ASTM D5321) on the following interfaces:
 - 1. Low Hydraulic Conductivity Soil and 60 mil Textured LLDPE Geomembrane.
- D. Direct shear testing (ASTM D3080) and interface shear testing (ASTM D5321) shall determine strength at normal stresses of 1 pounds per square inch (psi), 2 psi, and 4 psi, at a displacement rate of 0.04 in/min or less. Each shear test shall be performed using the same installation procedures and actual materials used for the project, in order to represent actual field conditions. The proper orientation of the geosynthetics needs to be defined and simulate same field installation conditions, and be communicated to the laboratory. The laboratory shall also define geosynthetic orientation in the report. Tests shall be run on fully saturated materials at 1 psi for 24 hours, then apply the normal loads as specified for 24 hours prior to shearing, to a minimum horizontal displacement of 3 inches. Additional samples shall be collected and tested if the material does not meet specifications as of Part 2.01 of this Section, at no additional cost to OWNER.
- E. CONTRACTOR shall have a qualified geotechnical laboratory prepare a Hydraulic Conductivity Curve that documents and defines the soil densities and moisture contents needed to achieve the specified hydraulic conductivity, a minimum of two weeks prior to the start of work. Several hydraulic conductivity tests shall be performed on samples of each Clay Soil source; the tests shall cover a range of soil densities (minimum 95% of the modified proctor) and moisture contents (-1 to +3% wet of optimum). The results of the hydraulic conductivity tests shall be plotted on the moisture-density curve for the soil. The acceptable range of soil densities and moisture contents shall be those that achieve the hydraulic conductivity specification. As additional test data is developed during the installation of the Low Hydraulic Conductivity Soil Layer, CONTRACTOR shall add the data to the Hydraulic Conductivity Curve, as determined by such testing.
- F. OWNER and/or CQA CONSULTANT reserves the right to require additional tests, and more frequent testing, when there is a change (i.e. source or physical properties) in the material being delivered to the project site or when the materials do not comply with the specifications at no additional cost to OWNER.

1.05 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Drawings and these Specifications.

1.06 SUBMITTALS

- A. CONTRACTOR shall submit testing results of pre-construction tests conducted on representative samples of OWNER'S source of the Low Hydraulic Conductivity Soil Layer

prior to start of work. If an off-site source is used by the CONTRACTOR, the results shall be coordinated with the CQA CONSULTANT. Such test results must document compliance with the specifications in Part 2.01.

- B. CONTRACTOR shall submit a Hydraulic Conductivity Curve, as described in Part 1.04 of this Section, a minimum of two weeks prior to the start of clay placement.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. The Low Hydraulic Conductivity Soil Layer shall be clean, substantially free of contamination, sharp rocks, debris of any kind, organic matter, vegetation, gypsum, ferrous, limestone based materials or any other unsuitable objects and classified as a GM, GC, CL or CH soil by the Unified Soil Classification System.
- B. The soil shall be substantially free of particles over approximately 0.5 inches in diameter.
- C. The Low Hydraulic Conductivity Soil Layer shall have the following properties:
1. A minimum of 90 percent of the soil by weight shall pass a #4 sieve as determined by ASTM D422.
 2. A minimum of 40 percent of the soil by weight shall pass a #200 sieve as determined by ASTM D422.
 3. A minimum of 10 percent of the soil by weight shall be less than 0.002 mm “clay” size particles as determined by ASTM D422.
 4. The maximum clod size of soils delivered to the site shall be less than approximately 3 inches. Any clod size over approximately 3 inches in diameter that is developed through the mixing process shall be pulverized or removed prior to compaction.
 5. Low Hydraulic Conductivity Soil Layer shall have an in-place hydraulic conductivity equal to or less than 1×10^{-4} centimeters per second as determined by ASTM D5084.
- D. As part of the pre-construction testing (see Part 1.04 of this Section), CQA CONSULTANT shall have an independent qualified geotechnical laboratory perform direct shear testing in accordance with ASTM D3080. The Low Hydraulic Conductivity Soil Layer shall have the following minimum secant friction angle:
- Low Hydraulic Conductivity Soil Layer (95 percent of the maximum dry density at -1 to 3 percent above optimum moisture content) under saturated conditions: $\geq 25^\circ$ (peak)
- E. As part of the pre-construction testing (see Part 1.04 of this Section), CONTRACTOR shall have an independent qualified geotechnical laboratory perform interface shear testing in accordance with ASTM D5321, at a displacement rate of 0.04 in/min or less. Each shear test shall be performed using the same installation procedures and actual materials used for the

project, in order to represent actual field conditions. The proper orientation of the geosynthetics needs to be defined and simulate same field installation conditions, and be communicated to the laboratory. The laboratory shall also define geosynthetic orientation in the report. Tests shall be run on fully saturated materials under drained conditions at 1 psi for 24 hours, then apply the normal loads as specified for 24 hours prior to shearing, to a minimum horizontal displacement of 3 inches.

- F. The Low Hydraulic Conductivity Soil Layer shall have the following minimum shear strengths:
1. Low Hydraulic Conductivity Soil Layer (95 percent of the maximum dry density at -1 to 3 percent above optimum moisture content) and 60-mil Textured LLDPE Geomembrane under saturated conditions:

≥25° (peak)

PART 3 – EXECUTION

3.01 GENERAL

- A. All work shall be performed in accordance with the Drawings, these Specifications and any pertaining local ordinances.

3.02 PREPARATION

- A. CONTRACTOR and CQA CONSULTANT shall inspect the surface of the base layer prior to installing the Low Hydraulic Conductivity Soil Layer. CONTRACTOR shall remove stones larger than approximately 0.5 inches in size and any other materials considered unsuitable by the OWNER or CQA CONSULTANT. CONTRACTOR shall remove ponded water and remove subgrade soils softened by water and replace the soils with new subgrade soils. New subgrade soils placed by CONTRACTOR shall be compacted and placed to the lines and grades shown on the Drawings.
- B. CONTRACTOR shall repair erosion rills and irregularities of grade in the subgrade prior to placing the Low Hydraulic Conductivity Soil Layer. Repairs shall be such that the lines and grade of the base layer are as shown on the Drawings. Any irregularities in the base layer; such as erosion rills, equipment tire tracks, or grading that is greater than 1-inch, or protrusions extending above the surface more than ½-inch, or in the opinion of the CQA CONSULTANT may cause restriction to proper stormwater flow, shall be repaired prior to placement of the Low Hydraulic Conductivity Soil Layer. Any ridges or ruts created from the edge of a roller or other equipment will not be allowed to remain if in the opinion of the CQA CONSULTANT or OWNER they restrict flow or cause obvious irregularities.
- C. Prior to the placement of the Low Hydraulic Conductivity Soil Layer, CQA CONSULTANT shall verify that the base layer surface is acceptable.

- D. A Rhode Island Professional Land Surveyor shall verify all lines and grades of the subgrade layer, and an as-built record drawings shall be submitted and approved by the OWNER and CQA CONSULTANT, prior to installation of the Low Hydraulic Conductivity Soil Layer.
- E. The base layer surface should be wetted so as to prevent "wicking" of moisture from installed Low Hydraulic Conductivity Soil Layer and to ensure a proper bonding between layers.
- F. CONTRACTOR and CQA CONSULTANT shall visually inspect each truckload of material as it is delivered from the OWNERS stockpile to the project construction site. The Low Hydraulic Conductivity Soil Layer shall be accepted for use once OWNER and CQA CONSULTANT agree that the quality of the Low Hydraulic Conductivity Soil Layer visually satisfied the specifications. If the material is unsatisfactory, the CONTRACTOR shall place the unsuitable material at a designated stockpile area by the OWNER, at no additional cost to the OWNER.

3.03 TEST PAD

- A. CONTRACTOR shall construct a test pad using the same materials that will be used for the Low Hydraulic Conductivity Soil Layer. The test pad shall be approximately 50 feet wide and approximately 50 feet long, and shall be comprised of a maximum acceptable compacted lift thickness of approximately 6 inches for all areas. The minimum thickness of the completed Low Hydraulic Conductivity Soil Layer (three lifts) shall be at least 18 inches after compaction, and no more than 20 inches. It shall be constructed in the same manner (i.e. same equipment and effort) that will be used to construct the Low Hydraulic Conductivity Soil Layer. CONTRACTOR may construct the test pad in the work area. A successful test pad may be incorporated into the Low Hydraulic Conductivity Soil Layer. Ditches shall be constructed around the test pad as necessary to divert surface water away from the area.
- B. CQA CONSULTANT shall conduct in-place construction tests described in Part 3.06 to document construction of the test pad. The objective of the test pad is for CONTRACTOR to get familiar with the Low Hydraulic Conductivity Soil Layer to be used and to refine their procedures for installing the materials.
- C. CONTRACTOR and CQA CONSULTANT shall observe the test pad construction and record the work.
- D. If the test results indicate that the test pad construction does not conform to the specifications, CONTRACTOR shall reconstruct and/or rework the test pad until the test pad conforms to specifications before beginning work on the remaining Low Hydraulic Conductivity Soil Layer.

3.04 LOW HYDRAULIC CONDUCTIVITY SOIL LAYER INSTALLATION

- A. CONTRACTOR shall place Low Hydraulic Conductivity Soil Layer in lifts approximately 6 inches in thickness (after compaction). The completed Low Hydraulic Conductivity Soil Layer shall be 18 inches thick. Shim lifts will not be allowed. While placing the Low Hydraulic Conductivity Soil Layer, laborers shall remove materials that do not conform to the specifications.

- B. No Low Hydraulic Conductivity Soil Layer shall be placed over base layer or low permeability layers that have not been tested and approved by the OWNER and/or CQA CONSULTANT. Areas that fail testing or are otherwise unacceptable to the OWNER and/or CQA CONSULTANT shall be reworked and retested as necessary.
- C. Using a bulldozer and a pad-foot vibratory roller (or similar equipment), the Low Hydraulic Conductivity Soil Layer shall be mixed and moisture added to achieve uniform particle size and uniform moisture content throughout the material. During the mixing process, laborers shall remove materials that do not conform to the specifications.
- D. The control of moisture is critical to achieving the desired in-place saturated hydraulic conductivity of the Low Hydraulic Conductivity Soil Layer. Thus, maintaining the moisture content shall be given a high priority by CONTRACTOR. CONTRACTOR shall provide a means for protecting all installed Low Hydraulic Conductivity Soil Layer against drying and freezing (tarps, covers, etc). If in the opinion of the CQA CONSULTANT the soil is too dry to achieve proper compaction or a sufficiently low permeability, a sufficient quantity of clean water shall be added to the soil to attain acceptable moisture content.
- E. Once the uniform particle size and moisture content are achieved, the Low Hydraulic Conductivity Soil Layer shall be compacted using a smooth drum vibratory roller or similar equipment to produce a smooth surface.
- F. Compaction shall be performed until the in-place density and moisture content are within the acceptable range to achieve the hydraulic conductivity specification as established by the Hydraulic Conductivity Curve (see Part 1.04). At no time shall the density be less than 95 percent of the maximum dry density, as determined by the modified Proctor test ASTM D1557.
- G. A new lift of Low Hydraulic Conductivity Soil Layer shall not be placed above a previously placed lift of Low Hydraulic Conductivity Soil Layer that has not been tested for in-place moisture content and density in the two hours before the lift is placed.
- H. Once each lift is approved and prior to the next lift placement, the previous lift shall be scarified and tracked with a bulldozer or pad-foot vibratory roller to a depth of 2 inches, and wetted to enhance adhesion between the upper and lower lifts.
- I. The second lift shall be placed and compacted in the same manner as the first lift. While placing and compacting the second lift of Low Hydraulic Conductivity Soil Layer, laborers shall remove any unsuitable materials.
- J. CONTRACTOR may need to utilize the bucket of an excavator, wooden planks attached to the laborers' work boots and/or hand-held tampers to smooth out footprints and minor ridges in the Low Hydraulic Conductivity Soil Layer surface. Any irregularities in the Low Hydraulic Conductivity Soil Layer surface; such as erosion rills, equipment tire tracks, or grading that is greater than 1 inch in depth or in the opinion of the CQA CONSULTANT may cause restriction to proper stormwater flow, shall be repaired prior to placement of the overlying geosynthetics. The Clay surface must be smooth and no bull-dozer tracks will be allowed to remain on the top surface for contact with geosynthetics. Any ridges or ruts created from the edge of a roller

or other equipment will not be allowed to remain if in the opinion of the CQA CONSULTANT or OWNER they restrict flow or cause obvious irregularities.

- K. Overlap joints between adjacent Low Hydraulic Conductivity soil panels at least 5 feet.

3.05 LOW HYDRAULIC CONDUCTIVITY SOIL LAYER THICKNESS CONTROL

- A. CONTRACTOR shall place Low Hydraulic Conductivity Soil Layer in lifts approximately 6 inches in thickness (after compaction). The completed Low Hydraulic Conductivity Soil Layer shall be 18 inches thick (after compaction). Thus, a number of measures must be implemented to assess the compliance with this requirement.
- B. CONTRACTOR shall provide grade stakes set at specific control points (see Part 3.01) for line and grade controls to guide the installation of the Low Hydraulic Conductivity Soil Layer. Once grades are achieved and prior to the GCL placement, CONTRACTOR is responsible for removing all grade stakes from the Low Hydraulic Conductivity Soil Layer. All penetrations in the Low Hydraulic Conductivity Soil Layer shall be filled with clay or bentonite.
- C. CONTRACTOR shall verify Low Hydraulic Conductivity Soil Layer thickness between the control points by using a string line and random test pits. Test pits shall also be used to check the bonding between lifts (upper and lower) and for unsuitable materials, if any.

3.06 CONSTRUCTION TESTING REQUIREMENTS

- A. CQA CONSULTANT shall retain the services of a qualified geotechnical laboratory to conduct construction tests on samples of Low Hydraulic Conductivity Soil Layer.
- B. CQA CONSULTANT shall conduct construction testing on Low Hydraulic Conductivity Soil Layer as follows:
 - 1. Atterberg limits tests (ASTM D4318) of the plastic and liquid limit and plasticity index shall be performed on borrow source samples as the material is transported on-site at a minimum frequency of one test every 1,500 cubic yards, or when material changes.
 - 2. Grain size/hydrometer test (ASTM D422) shall be performed on borrow source samples as the material is transported on-site at a minimum frequency of one test every 1,500 cubic yards, or when material changes.
 - 3. Modified proctor test (ASTM D1557) shall be performed on borrow source samples as the material is transported on-site at a minimum frequency of one test every 5,000 cubic yards, or when material changes.
 - 4. Moisture Content test (ASTM D2216) shall be performed on borrow source samples as the material is transported on-site at a minimum frequency of one test every 1,500 cubic yards, or when material changes.
 - 5. Permeability tests (ASTM D5084) using a triaxial cell with back pressure shall be performed on borrow source samples as the material is transported to the project site

at a minimum frequency of one test every 5,000 cubic yards. The testing and comparison of the moisture-density-permeability relation every 5,000 cubic yards shall be added to the hydraulic conductivity curve completed for Part 1.04(E).

- C. CQA CONSULTANT shall conduct construction testing on in-place Low Hydraulic Conductivity Soil Layer (Shelby Tubes) as follows:
1. Permeability tests (ASTM D5084) shall be performed on undisturbed samples of in-place compacted soils at a minimum frequency of one test every acre every 6-inch thick lift.
 2. Grain size/Hydrometer analysis tests (ASTM D422) shall be performed on samples of in-place compacted soils at a minimum frequency of one test every acre every 6-inch thick lift.
 3. Atterberg limits tests (ASTM D4318) shall be performed on samples of installed in-place compacted soils at a minimum frequency of one test every acre every 6-inch thick lift.
- D. CQA CONSULTANT shall conduct or contract with a qualified geotechnical laboratory to perform construction testing on in-place Low Hydraulic Conductivity Soil Layer as follows:
1. Field density/Moisture content test (ASTM D2922/D3017) shall be performed on all installed Low Hydraulic Conductivity Soil Layer at a minimum frequency of two tests per 25,000 Sq.ft. per lift, or minimum of 1 per lift per day of placement.
 2. Low Hydraulic Conductivity Soil Layer must pass the specifications as provided in Part 2.01 of this Section.
- E. CQA CONSULTANT shall perform test pits on the installed Low Hydraulic Conductivity Soil Layer to confirm proper thickness, at a rate of three test pits per acre. Location of the test pits shall be plotted on a site plan and documented for the construction certification report.
- F. OWNER, CERTIFYING ENGINEER, and/or CQA CONSULTANT reserves the right to require additional tests, and more frequent testing, when the materials do not comply with the specifications, at no additional cost to OWNER.

3.07 PROTECTION OF INSTALLED MATERIALS

- A. CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.
- B. In the event of damage to prior work or work completed as specified in this Section, CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of OWNER, and at no additional cost to OWNER.

- C. CONTRACTOR shall re-wet, rework, re-compact and retest any installed Low Hydraulic Conductivity Soil Layer that has a moisture content below the acceptable range defined on the Hydraulic Conductivity Curve (see Part 1.04 of this Section).
- D. Any installed Low Hydraulic Conductivity Soil Layer that exhibits desiccation or cracking, or has frozen, shall be reworked to attain the desired saturated hydraulic conductivity and retested prior to placing overlying geosynthetic materials at the approval of OWNER, CERTIFYING ENGINEER, and/or CQA CONSULTANT.
- E. To prevent the Low Hydraulic Conductivity Soil Layer from desiccating, CONTRACTOR shall cover the soil layer with a plastic film on a daily basis. The plastic film shall be weighted down with sand bags or other materials to prevent transfer of air between the plastic film and soil. It is CONTRACTOR'S responsibility to maintain the moisture content within the acceptable range as shown on the Hydraulic Conductivity Curve.
- F. The final surface of the Low Hydraulic Conductivity Soil Layer shall be maintained using water and brooms to keep the surface hydrated and to manage surficial cracks. Any areas not conforming to the specifications shall be reworked and retested prior to deployment of Geosynthetic Clay Liner. The moisture of the Low Hydraulic Conductivity Soil Layer shall be tested within two hours of covering with geosynthetics by the CQA CONSULTANT, using a field density/moisture gauge, to confirm the material is within the acceptable limits. Granular bentonite may be used to fill in minor, but acceptable, cracks that developed on the surface.
- G. The daily work area shall be no larger than necessary to maintain moist soil conditions and continuous operations. Approved areas shall be covered with geomembrane as soon as possible to protect the surface of the Low Hydraulic Conductivity Soil Layer from desiccation.
- H. To prevent the Low Hydraulic Conductivity Soil Layer from freezing, CONTRACTOR shall cover the soil layer with frost blankets on a daily basis, as needed.

3.08 RECORD DRAWINGS

- A. CONTRACTOR shall submit "as-built" information within 24 hours after the completion of the Low Hydraulic Conductivity Soil Layer so CERTIFYING ENGINEER can review and compare "as-built" grades to design grades. No work may begin on the geosynthetic clay liner until the "as-built" information is accepted by OWNER and CERTIFYING ENGINEER.
- B. CONTRACTOR shall submit "as-built" Record Drawings of the Low Hydraulic Conductivity Soil Layer in accordance with Section 01 78 29 – Record Drawings. The drawing shall be stamped by a Rhode Island Professional Land Surveyor and shall be submitted to the DESIGN ENGINEER for review. Record drawings shall use the Project Site Coordinate System and be at a scale not smaller than 1 inch = 50 feet. Three paper copies and one digital copy (AutoCAD 2017 or later) shall be provided.

****END OF SECTION****

SECTION 31 23 05
BASE LAYER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Contract Drawings and general provisions of the Contract, including General Specifications sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limited to: hauling, grading, drying, removal of storm water, removal of unsuitable materials, protection of installed materials and all work incidental to the proper preparation for the base layer, as specified herein and as indicated on the Contract Drawings.
- B. The CONTRACTOR is responsible for conducting pre-construction testing (see Part 1.03 of this Section) and construction testing (see Part 3.03 of this Section) on representative samples of the base layer.

1.03 PRE-CONSTRUCTION TESTING REQUIREMENTS

- A. CONTRACTOR shall retain the services of a qualified geotechnical laboratory to conduct pre-construction tests on samples of base layer.
- B. CONTRACTOR shall conduct a minimum of one grain size test (ASTM D422), one soil classification (ASTM D2487), one Atterberg Limits (ASTM D4318), one Moisture Content (ASTM D2216), one Modified Proctor (ASTM D1557), and one direct shear test (ASTM D3080) on a representative sample of each source of base layer. This testing shall be conducted prior to the installation of base layer. The results of this testing shall be submitted to the DESIGN ENGINEER a minimum of 5 days before the installation of base layer.
- C. CONTRACTOR shall conduct testing consisting of interface shear tests (ASTM D5321) between the following interfaces:
 - 1. Base layer and GCL.
- D. Direct shear testing (ASTM D3080) and interface shear testing (ASTM D5321) shall be determined utilizing normal stresses of 1 psi, 2 psi, and 4 psi for the construction area soils. Each shear test shall be performed using the same installation procedures in order to represent actual field conditions. Tests shall be run on fully saturated materials. Additional samples shall be collected and tested if the material does not meet specifications as of Part 2.01 of this Section, at no additional cost to the OWNER.

- E. OWNER and DESIGN ENGINEER reserve the right to require additional tests, and more frequent testing, by CONTRACTOR when there is a change (i.e. source or physical properties) in the material being delivered to the project site or when the materials do not comply with the specifications at no additional cost to the OWNER.

1.04 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Contract Drawings and these Specifications.

1.05 SUBMITTALS

- A. The CONTRACTOR shall submit to the OWNER representative samples of the base layer prior to delivery of base layer to the project site. OWNER may elect to conduct tests on said sample.
- B. The CONTRACTOR shall submit to the Owner testing results of pre-construction and construction tests conducted on representative samples of the base layer. The results of this testing shall be submitted to the Owner within 5 days after the tests are completed. Such test results must document compliance with the specifications in Part 2.01.

PART 2 - PRODUCTS

2.01 MATERIAL

- A. Base layer material shall be substantially free of contamination, debris, or other unsuitable objects. Base layer material shall be substantially free of particles over 1/2-inch in diameter.
- B. The base layer material shall be a sandy soil classified as SP, SW, SM, GW, or GP by the Unified Soil Classification System. Installed minimum thickness of base layer shall be 6-inches.
- C. No more than 10 percent of the base layer material shall be finer than a #200 sieve consisting of non-plastic material, as determined ASTM D422.
- D. Prior to construction, the Contractor shall submit samples of the base layer material to be used so that third party testing can be conducted to assure specification requirements are satisfied.
- E. As part of the pre-construction testing (see Part 1.03 of this Section), the CONTRACTOR shall perform direct shear testing in accordance with ASTM D3080. The base layer shall have the following minimum secant friction angles:
 - 1. Base layer (87.5 percent of the maximum dry density at optimum moisture content):

> 25° (peak)

- F. As part of the pre-construction testing (see Part 1.03 of this Section), the CONTRACTOR shall perform interface shear testing in accordance with ASTM D5321. The base layer shall have the following minimum secant friction angles:

1. Base layer (87.5 percent of the maximum dry density at optimum moisture content) and GCL under saturated conditions:

> 25° (peak)

PART 3 - EXECUTION

3.01 GENERAL

- A. All work shall be performed in accordance with the Contract Drawings, these Specifications and any pertaining local ordinances.
- B. Base layer work shall result in a surface suitable for the installation of the overlying final cover system. The existing grades present in the project area will consist of the base grades for the CONTRACTOR to place the base layer soil, minor adjustments may be necessary in some areas for positive slope for stormwater flow. CONTRACTOR shall review existing conditions with OWNER and ENGINEER prior to start of work.

3.02 BASE LAYER INSTALLATION

- A. Prior to installation of the base layer, the existing topsoil will be stripped, and the underlying material shall be prepared so as to achieve a uniform grade as shown on the Contract Drawings.
- B. The CONTRACTOR to locate tie in locations of exposed final cover geosynthetics and submit survey to OWNER and ENGINEER for review.
- C. The CONTRACTOR shall construct the base layer to a minimum installed thickness of 6-inches and shall attain the elevations, slopes, and/or grades as shown on the Contract Drawings and as approved by OWNER and ENGINEER.
- D. Grading of the base layer shall be accomplished via grade stakes set to establish the thickness of the base layer, or with on-board GPS equipment systems. Grade stakes must be removed once the layer has been completed and before the installation of the final cover geomembrane. Grade all surfaces to achieve a uniform grade and consistent surface free of ruts, voids, rills and soft spots.

The final surface of the base layer shall be smooth, substantially free from equipment tire marks, holes, depressions more than 1-inch deep, or protrusions extending above the surface more than 1/2-inch.

3.03 CONSTRUCTION TESTING REQUIREMENTS

- A. The CQA CONSULTANT shall retain the services of a qualified geotechnical laboratory to conduct construction tests on samples of the base layer.
- B. The CQA CONSULTANT shall conduct construction testing on the base layer as the soils are delivered to the site as follows:
 - 1. Grain size test (ASTM D422) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 2. Soil Classification test (ASTM D2487) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 3. Atterberg Limits (ASTM D4318) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 4. Moisture Content (ASTM D2216) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 5. Modified Proctor (ASTM D1557) shall be performed at a minimum frequency of one test every 5,000 cubic yards.
 - 6. Direct shear test (ASTM D3080) shall be performed at a minimum frequency of one test every acre every 10,000 cubic yards.
- C. The CONTRACTOR shall inform the CQA CONSULTANT no less than 24 hours prior to the collection of samples.
- D. Samples from the base layer must pass the specifications as provided in Part 2.01 of this Section.
- E. OWNER and DESIGN ENGINEER reserve the right to require additional tests, and more frequent testing, when the soils do not appear to comply with the specifications, at no additional cost to the OWNER.
- F. The CONTRACTOR will be required to perform a minimum of 5 test pits per acre to confirm adequate depth of the base layer. Test pits shall be performed only when the CQA CONSULTANT is present to observe.

3.04 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.
- B. In the event of damage to prior work or work completed as specified in this Section, the CONTRACTOR shall immediately make all repairs and replacements necessary, to the satisfaction of the OWNER, and at no additional cost to the OWNER.

3.05 RECORD DRAWINGS

- A. The CONTRACTOR shall submit, for review and approval, “as-built” information to the OWNER within 24 hours after the completion of installing the base layer. Installation of the final cover geomembrane will not be permitted until the “as-built” information is acceptable to the Owner.
- B. The CONTRACTOR shall submit “as-built” Record Drawings of the base layer to the OWNER within 10 business days after the completion of the landfill final cover project. The Drawing shall be stamped by a Rhode Island Professional Land Surveyor and shall be submitted to the Owner for review. Record drawings shall use the Project Site Coordinate System and be at a scale not smaller than 1 inch = 50 feet. Three paper copies and one digital copy (AutoCAD 2011 or later) shall be provided.

****END OF SECTION****

SECTION 31 23 23
VEGETATIVE SUPPORT LAYER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Contract Drawings and general provisions of the Contract, including General and Technical Specification sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limited to: hauling, grading, drying, removal of storm water, removal of unsuitable materials, protection of installed materials and all work incidental to the proper installation of the vegetative support layer, as specified herein and as indicated on the Contract Drawings.
- B. The CONTRACTOR is responsible for conducting pre-construction testing (see Part 1.03 of this Section) and construction testing (see Part 3.03 of this Section) on representative samples of the Vegetative Support Layer soil.

1.03 PRE-CONSTRUCTION TESTING REQUIREMENTS

- A. CONTRACTOR shall retain the services of a qualified geotechnical laboratory to conduct pre-construction tests on samples of Vegetative Support Layer soil.
- B. CONTRACTOR shall conduct a minimum of one grain size test (ASTM D422), one soil classification (ASTM D2487), one Atterberg Limits (ASTM D4318), one Moisture Content (ASTM D2216), one Modified Proctor (ASTM D1557), one permeability test (ASTM D2434) and one direct shear test (ASTM D3080) on a representative sample of each source of Vegetative Support Layer. This testing shall be conducted prior to the delivery of Vegetative Support Layer soils to the project site. The results of this testing shall be submitted to the DESIGN ENGINEER a minimum of 5 days before the delivery of Vegetative Support Layer Material to the project site.
- C. Direct shear testing (ASTM D3080) shall determine strength at normal stresses of 1 pounds per square inch (psi), 2 psi, and 4 psi. Each shear test shall be performed using the same installation procedures in order to represent actual field conditions. Tests shall be run on fully saturated materials. Additional samples shall be collected and tested if the material does not meet specifications as of Part 2.01 of this Section, at no additional cost to the OWNER.
- D. OWNER and DESIGN ENGINEER reserve the right to require additional tests, and more frequent testing, by CONTRACTOR when there is a change (i.e. source or

physical properties) in the material being delivered to the project site or when the materials do not comply with the specifications at no additional cost to the OWNER.

1.04 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Contract Drawings and these Specifications.

1.05 SUBMITTALS

- A. The CONTRACTOR shall submit to the OWNER representative samples of the Vegetative Support Layer prior to delivery of the materials to the project site. OWNER may elect to conduct tests on said sample.
- B. The CONTRACTOR shall submit to the Owner testing results of pre-construction tests and construction tests conducted on representative samples of the Vegetative Support Layer. The results of this testing shall be submitted to the Owner within 5 days after the tests are completed. Such test results must document compliance with the specifications in Part 2.01.

PART 2 - PRODUCTS

2.01 MATERIAL

- A. Vegetative Support Layer shall be clean, free of contamination, sharp rocks, debris of any kind, organic matter, vegetation, gypsum, ferrous, limestone based materials or any other unsuitable objects and classified as SP, SC, or SM by the Unified Soil Classification System.
- B. Vegetative Support Layer soil shall be free of particles over 3-inches in diameter.
- C. The Vegetative Support Layer soil shall have the following properties:
 - 1. A maximum of 10 percent of the soil shall pass a #200 sieve as determined ASTM D422.
 - 2. A minimum hydraulic conductivity of 5.0×10^{-4} centimeters per second as determined by ASTM D2434.
- D. As part of the pre-construction testing (see Part 1.03 of this Section), the CONTRACTOR shall perform direct shear testing in accordance with ASTM D3080. The Vegetative Support Layer soil shall have the following minimum secant friction angles:
 - 1. Vegetative Support Layer (87.5 percent of the maximum dry density under saturated conditions):

$\geq 25^\circ$ (peak)

- E. As part of the pre-construction testing (see Part 1.03 of this Section), interface shear testing shall be performed on each interface of the final cover system in accordance with ASTM D5321. The vegetative support layer interfaces shall have the following minimum secant friction angles:

1. Vegetative Support Layer (87.5 percent of the maximum dry density under saturated conditions) vs. Composite Drainage Net:

$\geq 25^{\circ}$ (peak)

PART 3 - EXECUTION

3.01 GENERAL

- A. All work shall be performed in accordance with the Contract Drawings, these Specifications and any pertaining local ordinances.

3.02 PREPARATION

- A. The CONTRACTOR shall ensure that the surface of the geocomposite shall be free of wastes, loose soil, stones, rocks, sticks, roots, sharp objects, or debris of any kind which may damage the geocomposite during placement of the Vegetative Support Layer soil.
- B. All Composite Drainage Net testing shall be completed and passed before placing the Vegetative Support Layer.

3.03 VEGETATIVE SUPPORT LAYER INSTALLATION

- A. Vegetative Support Layer soils shall be spread directly on top of the composite drainage net surface. The Vegetative Support Layer shall have a minimum thickness, after compaction, of approximately 18 inches as shown on the Contract Drawings.
- B. Placement of the material should be performed using a low ground pressure bulldozer. The tracked equipment shall operate only over previously placed Vegetative Support Layer soil. The CONTRACTOR shall not operate equipment directly on the geocomposite surface.

The equipment used to place and spread the Vegetative Support Layer soils shall not exert ground pressures exceeding the following:

Allowable Equipment Ground Pressure (psi)	Thickness of Vegetative Support Layer Above Geocomposite (in.)
< 5	12
< 10	18
< 20	24
> 20	36

- C. At no time should rutting occur in the vegetative support during placement activity from equipment. Should rutting occur, CONTRACTOR shall immediately cease operations

and investigate cause. Any ruts greater than 2-inches in depth shall be repaired prior to placement of topsoil layer. At no times shall the minimum thickness and allowable ground pressure limits be exceeded as indicated in the previously described table in 3.03(B).

- D. Spreading of Vegetative Support Layer shall be done so as to avoid stretching, wrinkling or creasing of the geomembrane.
- E. Vegetative Support Layer soils shall only be spread from the bottom of the slopes to the top, unless otherwise approved by the OWNER and the CQA CONSULTANT.

3.04 CONSTRUCTION TESTING REQUIREMENTS

- A. The CQA CONSULTANT shall retain the services of a qualified geotechnical laboratory to conduct construction tests on samples of Vegetative Support Layer.
- B. The CQA CONSULTANT shall conduct construction testing on the Vegetative Support Layer as the soils are delivered to the site as follows:
 - 1. Grain size test (ASTM D422) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 2. Soil classification (ASTM D2487) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 3. Atterberg Limits (ASTM D4318) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 4. Moisture Content (ASTM D2216) shall be performed at a minimum frequency of one test every 3,000 cubic yards.
 - 5. Modified Proctor (ASTM D1557) shall be performed at a minimum frequency of one test every 5,000 cubic yards.
 - 6. Permeability test (ASTM D2434) shall be performed at a minimum frequency of one test every 10,000 cubic yards.
- C. The CONTRACTOR shall inform the CQA CONSULTANT at a minimum of 24 hours prior to the collection of samples.
- D. Vegetative Support Layer soils must pass the specifications as provided in Part 2.01 of this Section.
- E. OWNER and DESIGN ENGINEER reserve the right to require additional tests, and more frequent testing, when the materials do not comply with the specifications, at no additional cost to the OWNER.

- F. The CONTRACTOR will be required to perform a minimum of 5 test pits/ acre to confirm adequate depth of the vegetative support layer, and shall perform the tests in the presence of the CQA CONSULTANT.

3.05 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.
- B. In the event of damage to prior work or work completed as specified in this Section, the CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of the OWNER, and at no additional cost to the OWNER.

3.06 RECORD DRAWINGS

- A. The CONTRACTOR shall submit “as-built” information to the OWNER within 24 hours after the completion of the Vegetative Support Layer.
- B. The CONTRACTOR shall submit “as-built” Record Drawings of the Vegetative Support Layer elevations to the OWNER within 10 business days after the completion of the final cover project. The drawing shall be stamped by a Rhode Island Professional Land Surveyor and shall be submitted to the Owner for review. Record drawings shall use the Project Site Coordinate System and be at a scale not smaller than 1 inch = 50 feet. Three paper copies and one digital copy (AutoCAD 2011 or later) shall be provided.

****END OF SECTION****

SECTION 31 25 00
EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Contract Drawings and general provisions of the Contract, including General and Technical Specification sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limited to: hauling, grading, drying, removal of storm water, removal of unsuitable materials, protection of installed materials and all work incidental to installation and maintenance of erosion control measures, as specified herein and on the Contract Drawings.

1.03 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Contract Drawings and these Specifications.

1.04 INTENT

- A. The intent of the work under this Section is to provide erosion control measures to prevent erosion and sedimentation, as well as to control stormwater run-on and runoff, from construction activities related to the performance of this Project, CONTRACTOR and his SUBCONTRACTORS shall comply with all permits issued for the Project and the site, all applicable federal, state and local Laws and Regulations concerning erosion and sediment control, as well as the specific requirements stated in this section, and elsewhere in the Specifications and as requested by the Owner.
- B. CONTRACTOR shall obtain and become familiar with the latest RIDEM approved RIRRC "Erosion and Sedimentation Control Plan," as submitted to the RIDEM as a baseline plan to control erosion on the entire Central Landfill property, as well as any other RIDEM requirements and standards for erosion control.
- C. The erosion control devices specified herein and as may be shown on the plans represent the minimum required work for erosion control. CONTRACTOR shall add to these minimum devices any and all measures to effectively prevent migration of sediment to and from the limits of the Work area, and to control stormwater run-on and runoff from negatively impacting areas within and outside of the project area. Limit areas exposed uncontrolled to erosion during installation of temporary erosion and sedimentation controls to a maximum of 1/2 acres.
- D. Within this section, the most up to date version of the Rhode Island Soil Erosion and Sediment Control Handbook prepared by the U.S. Department of Agriculture Soil Conservation Service

and the R.I. Department of Environmental Management shall be the guideline of analysis and the standard source for erosion and sediment control measures.

1.05 SUBMITTALS

- A. Implementation Plan: Prior to commencement of the Work, CONTRACTOR shall:
1. Meet with ENGINEER and OWNER to develop mutual understandings relative to compliance with the provisions of this section and administration of the erosion and sediment control program.
 2. Should CONTRACTOR desire to change or modify the specified erosion controls, he shall submit in writing his plans to the OWNER for implementing erosion and sediment control including, but not limited to, placement of straw bales, silt fence, containment berms, temporary channels, and settling ponds, as well as a description of all construction techniques intended to minimize erosion and sedimentation, and a program for maintenance of these facilities throughout the performance of construction activities.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Hay bales: bales shall be made of straw or hay with forty pounds minimum weight and one hundred and twenty pounds maximum weight and shall be string-tied. Wood stakes shall be a minimum of 2 inches by 2 inches nominal size by a minimum of 3 feet long. As an alternate, 1 inch diameter steel rods or steel reinforcing bars may be used.
- B. Silt Fence shall be 36 inches in height and fabricated of polypropylene.

PART 3 - EXECUTION

3.01 SEDIMENT CONTAINMENT

- A. All materials and installation shall be in accordance with the approved erosion and sediment control plan and as specified on the Drawings and Contract documents, unless otherwise approved by the OWNER.
- B. OWNER has the authority to direct CONTRACTOR to immediately provide permanent or temporary erosion control measures to prevent contamination of adjacent streams, watercourses, lakes, ponds or other areas of water impoundment. Every effort shall be made by CONTRACTOR to prevent soil erosion on the site and onto abutting property.
- C. Place erosion controls as close as feasible to work so as to prevent siltation from entering adjacent properties and areas outside the limits of work.
- D. Erosion controls shall be installed at the locations indicated on the Contract Drawings and adjacent to other work areas as directed by the OWNER or CQA CONSULTANT.

- E. Erosion controls shall be maintained in such a manner so as to prevent siltation from entering wetlands for the duration of the project.
- F. Erosion controls shall be replaced or repaired as directed by the CQA CONSULTANT or OWNER. The erosion control features shall be installed by CONTRACTOR, maintained by CONTRACTOR, and shall be removed upon completion of the Work.

3.02 EROSION CONTROL

- A. Provide all areas disturbed by the CONTRACTOR which exhibit erosion potential prior to the completion of work shall, at the direction of the OWNER or CQA CONSULTANT, with an acceptable temporary vegetative cover or mulch.
- B. Protect work areas and adjacent areas against erosion. Repair and re-grade as needed to restore disturbed areas or areas outside of the project area which were affected by CONTRACTOR's operations. Place and compact soils in areas disturbed by the CONTRACTOR or SUBCONTRACTORS.
- C. CONTRACTOR shall remove all erosion controls that were installed as part of the project, at the completion of the project.

3.03 MONITORING

- A. CONTRACTOR shall monitor surface waters in accordance with the OWNER's Erosion and Sedimentation Control Plan and CONTRACTOR's Environmental Protection Plan.
- B. OWNER may perform surface water monitoring at its own discretion, which will not relieve the CONTRACTOR from such responsibilities.
- C. If CONTRACTOR'S or OWNER's monitoring results are outside the stipulated range, CONTRACTOR shall implement additional sediment and erosion control measures to reduce the turbidity of offsite stormwater flows, in consultation with OWNER and/or CQA CONSULTANT.

3.04 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.
- B. In the event of damage to prior work or work completed as specified in this Section, the CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of the OWNER, and at no additional cost to the OWNER.

****END OF SECTION****

SECTION 32 92 00
TOPSOIL AND SEEDING

PART 1- GENERAL

1.01 RELATED DOCUMENTS

- A. Contract Drawings and general provisions of the Contract, including General and Technical Specification sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all tools, supervision, equipment, and labor consisting of but not limited to: hauling, grading, drying, removal of storm water, removal of unsuitable materials, protection of installed materials and all work incidental to the proper installation of the topsoil layer/seeding/mulch, as specified herein and as indicated on the Drawings.

1.03 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Contract Drawings and these Specifications.

1.04 PRE-CONSTRUCTION TESTING REQUIREMENTS

- A. CONTRACTOR shall retain the services of a qualified geotechnical laboratory to conduct pre-construction tests on samples of topsoil.
- B. CONTRACTOR shall conduct a minimum of one soil classification (ASTM D2487), one grain size test (ASTM D422), one pH test (ASTM D4972), one organic content test (ASTM D2974), one permeability test (ASTM D2434), one macro-nutrient test (LaMotte standard test), and one soluble salt content test on a representative sample of each source of topsoil. This testing shall be conducted prior to the installation of topsoil. The results of this testing shall be submitted to the OWNER and CQA CONSULTANT a minimum of 5 days before the installation of the topsoil.
- C. CONTRACTOR shall conduct a minimum of one laboratory test on the proposed topsoil material, to determine the application rates of lime and fertilizer.

1.05 SUBMITTALS

- A. The CONTRACTOR shall submit to the OWNER product specifications detailing the material used for the hydro-mulch.

- B. The CONTRACTOR shall submit to the OWNER the seed vendor's certified statement for each grass seed mixture and other data substantiating that materials comply with specified requirements.

PART 1 - PRODUCTS

1.01 TOPSOIL LAYER

- A. The topsoil layer (loam) shall be free of large rocks, debris of any kind, stumps, and any other unsuitable matter, capable of supporting vegetation. The topsoil layer shall have no particles over 2-inches in diameter.
- B. The topsoil material shall be graded within the following limits:

Sieve Size	Percent Finer
2-inch	100
No. 4	75 (min)
No. 200	40 (max)

- C. The topsoil layer material shall have a minimum organic content of 8 percent, but no more than 20 percent, as determined by ASTM D2974.
- D. The topsoil layer material shall have a pH between 6.0 and 7.5 as determined by ASTM D4972, and a soluble salt content not to exceed 500 ppm.

1.02 SEEDING

- A. All legume seed shall be inoculated within 24 hours before mixing and planting with the appropriate inoculum for each variety. All inocula shall be fresh and shall be used within the date limit prescribed by the manufacturer. Three times the normal amount of inoculant shall be required when the seed is to be treated in an approved hydroseeder. All seed delivered to the job shall be in containers labeled in accordance with provisions of the Rhode Island Seed Act of 1956 (Volume 8, Title 2, Chapter 6) and its amendments as provided for agricultural seed offered for sale. Only the current year's seed shall be accepted.

Vegetative cover (seed) shall be a mixture of vegetative species comprised of one of the following mixtures or an approved equal:

Seed Mix A	
Approx. 34%	Perennial Rye-grass
Approx. 34%	Creeping Type Red Fescue
Approx. 12%	Kentucky Blue-grass
Approx. 9%	Annual Rye-grass
Approx. 6%	White Clover
Approx. 5%	Inert matter, other crop seed, weed seed

This mix shall be applied at a rate of 150 lbs. per acre

Seed Mix B	
Approx. 34%	Creeping Red Fescue
Approx. 34%	Kentucky Tall Fescue
Approx. 17%	Linn Perennial Rye-grass
Approx. 10%	White Dutch Clover
Approx. 5%	Fancy Red Top

This mix shall be applied at a rate of 150 lbs. per acre

Seed Mix C – RI State Native Mix (Mixed to RI State Specs)	
Approx. 30%	Hard Fescue
Approx. 25%	Per. Rye
Approx. 25%	Little Bluestem
Approx. 20%	Switchgrass

This mix shall be applied at a rate of 60 lbs. per acre

- B. Other seed mixtures may be used for over-seeding, if over-seeding is requested by the OWNER.

1.03 MULCH

- A. Mulch for mechanically applied seeding purposes shall be a straw or hay, free from weeds and coarse matter. Mulch shall be spread by blower or by hand at a rate of 2 tons/acre. Mulch must be anchored immediately by the use of a tractor-drawn mulch anchoring tool, or other approved method.
- B. Mulch for hydroseeding purposes shall be a cellulose fiber derived from natural, clean, whole wood and shall be aged a color, which contrasts with the soil on which it is to be applied. The rate of application shall be 1,500 pounds per acre for slopes flatter than 4 horizontal to 1 vertical and 3,000 pounds per acre for slopes steeper than 4H:1V, including the landfill sideslopes.

1.04 WATER

- A. Water used in this work will be furnished by the CONTRACTOR and will be suitable for irrigation and free from oil, acid, alkali, salt and other substances harmful to plant life. Hose and other equipment required for this work shall also be furnished by the CONTRACTOR.

1.05 EROSION MAT

- A. The erosion mat shall be a straw/coconut fiber blanket consisting of heavy-weight, UV stabilized netting and a uniform straw matrix supplemented with durable coconut fiber, such as North American Green SC150 Straw/Coconut Fiber Erosion Control Blanket or approved equal.
- B. The erosion mat shall prevent scour until vegetation is established and promote vegetative growth.
- C. Lime shall be ground limestone and shall comply with existing State and Federal regulations. Limestone shall contain a minimum of 50 percent total oxides (calcium oxide plus magnesium oxide). It shall be ground to a fineness so that at least 50 percent will pass through a 100 mesh sieve and 98 percent through a 20 mesh sieve.

PART 2 - EXECUTION

2.01 GENERAL

- A. All work shall be performed in accordance with the Contract Drawings, these Specifications and any pertaining local ordinances.
- B. As directed from contract award, CONTRACTOR may be required to screen and mix OWNER supplied compost with CONTRACTOR supplied soils for the Topsoil layer. CONTRACTOR will be required to remove all tailings as a result of screening operations and stockpile the materials at a location determined by the OWNER.

2.02 PREPARATION

- A. The CONTRACTOR shall ensure that the surfaces where Topsoil Layer soils are to be placed shall be graded to a uniform slope.
- B. Loamed surfaces which are ready for the placement of seed shall be prepared by tracking the seed bed perpendicular to the slope or raking the slope.
- C. Any erosion rills in the seed bed must be repaired before seeding.

2.03 INSTALLATION

- A. The Topsoil Layer shall be spread along all disturbed areas during the construction. The Topsoil Layer shall have a minimum thickness, after compaction, of 6-inches or as shown on the Contract Drawings.
- B. Grading of the Topsoil Layer may be accomplished via depth markers, or other approved method, to establish the thickness of the layer. Depth markers shall be removed once the topsoil layer soils have been installed.
- C. Seed shall be spread by hydro-seeding methods. CONTRACTOR shall be responsible for re-seeding in areas of poor germination.
- D. A minimum of 150 lbs. of seed mixture must be applied per acre, or as otherwise noted.
- E. Hay or straw mulch shall be applied to areas which have been seeded, unless hydroseeding mulch is used.
- F. Lime and fertilizer shall be applied at the rates recommended by a testing laboratory, for the site specific topsoil installed for the project.
- G. The CONTRACTOR shall complete the seeding of the topsoil layer between the periods from March 15 to May 31 and August 15 to October 15. Should the seeding of the topsoil layer extend beyond that October 15th date, the CONTRACTOR shall use a winter fertilizer and seed blend and will be responsible for growth the following spring.

2.04 CONSTRUCTION TESTING REQUIREMENTS

- A. The CQA CONSULTANT shall retain the services of a qualified geotechnical laboratory to conduct construction tests on samples of topsoil as follows:
 - 1. Soil classification (ASTM D2487) shall be performed on samples as the material is placed at a minimum frequency of one test every 3,000 cubic yards.
 - 2. Grain size test (ASTM D422) shall be performed on samples as the material is placed at a minimum frequency of one test every 3,000 cubic yards.

3. pH test (ASTM D4972) shall be performed on samples as the material is placed at a minimum frequency of one test every 3,000 cubic yards.
4. Organic content (ASTM D2974) shall be performed on samples as the material is placed at a minimum frequency of one test every 3,000 cubic yards.
5. Permeability test (ASTM D2434) shall be performed on samples as the material is placed at a minimum frequency of one test every 10,000 cubic yards.

2.05 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials in conformance with the requirements of this Section. CONTRACTOR will be responsible for vegetation growth 1 year from final date of seeding. A satisfactory stand of growth will be defined as a section of grass of 10,000 square feet or larger that has:
 1. No bare spots larger than three (3) square feet.
 2. No more than ten percent (10%) of total area with bare spots larger than one (1) square foot.
 3. No more than fifteen percent (15%) of total area with bare spots larger than 6-inches square.
 4. The observations by the ENGINEER or OWNER will determine whether maintenance shall continue in any area found deficient.
- B. In the event of damage to prior work or work completed as specified in this Section, the CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of the OWNER and the CQA CONSULTANT and at no additional cost to the OWNER.

****END OF SECTION****

SECTION 33 46 01
COMPOSITE DRAINAGE NET

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Construction Drawings, Specifications, and general provisions of the Contract shall apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limited to: transportation, handling, geocomposite layout and placement, seaming, patching, removal of unsuitable materials, protection of installed materials and all work incidental to the proper installation of the Geocomposite Drainage Layer, as specified herein and as indicated on the Construction Drawings.
- B. Coordinate the Composite Drainage Net Layer installation with the installation of the geomembrane barrier and the vegetative support layer.
- C. CONTRACTOR will provide the composite drainage net material.
- D. CONTRACTOR shall be responsible for composite drainage net material staging areas, unloading, stockpiling, storage, and protection.

1.03 MANUFACTURER'S CONFORMANCE TESTING

- A. The manufacturer of the Composite Drainage Net Layer shall supply the CONTRACTOR with quality control certificates on each roll of geocomposite delivered to the site. The certificates shall be prepared by the composite drainage net manufacturer and provide testing frequencies and test results as indicated in Part 2.01 of this Section.

1.04 PRE-CONSTRUCTION TESTING REQUIREMENTS

- A. CONTRACTOR shall retain the services of a Geosynthetics Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) certified laboratory for performing pre-construction testing required in this Section. The results of all testing shall be submitted to the OWNER before any geocomposite is incorporated into the work.
- B. CONTRACTOR shall conduct pre-construction testing consisting of interface shear tests (ASTM 5321) to determine the interface between the geomembrane barrier and the Geocomposite Drainage Layer, and any overlying soil layer. Each test shall determine interface strength at normal stresses of 1 pounds per square inch (psi), 2 psi, and 4 psi at a displacement rate of 0.04 inch/min to a minimum horizontal displacement of 3 inches. Each interface shear test shall be performed using the same installation procedures in order to represent actual

field conditions. Additional samples shall be collected and tested if the material does not meet specifications as of Part 2.01 of this Section at no cost to the OWNER.

- C. OWNER reserves the right to require additional tests, and more frequent testing, by CONTRACTOR when there is a change (i.e. source or physical properties) in the materials being delivered to the project site or when the materials do not comply with the specifications.
- D. OWNER reserves the right to collect samples of the geocomposite for independent testing by a qualified laboratory at OWNER's expense.

1.05 LINE AND GRADE CONTROL

- A. CONTRACTOR is responsible for line and grade control for all aspects of the work in accordance with the Construction Drawings and these Specifications.

1.06 SUBMITTALS

- A. The CONTRACTOR shall submit to the OWNER samples of the Geocomposite Drainage Layer. OWNER may elect to conduct tests on said samples at OWNER's expense.
- B. The CONTRACTOR shall submit quality control certificates provided by the manufacturer on each roll of Geocomposite Drainage Layer to the OWNER. Test results must document compliance with the specifications in Part 2.01 of this Section.
- C. The CONTRACTOR shall submit testing results of pre-construction tests conducted on representative samples of the Geocomposite Drainage Layer. Such test results must document compliance with the specifications in Part 2.01 of this Section.
- D. The CONTRACTOR shall submit a geocomposite panel layout drawing to the OWNER at least 10 days prior to beginning the installation of the geocomposite. The panel layout drawing shall be prepared at scale not less than 1" = 50'. The drawing shall show the location of geocomposite roll numbers, seam locations and anchor trench.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Handle and store geocomposite rolls and associated materials in such a manner as to ensure a sound, undamaged condition. Procedures shall be in conformance with manufacturer's recommendations.
- B. Rolls will be stored at the job site away from high-traffic areas but sufficiently close to the active work area to minimize handling. The designated storage area should be flat, dry and stable. Moisture protection of geocomposite rolls should be provided by its packaging; however, an additional tarpaulin or plastic sheet is recommended to provide extra protection.

1.08 QUALIFICATIONS

- A. The geocomposite manufacturer must have at least five years of experience in the manufacture of such geocomposite. In addition, the geocomposite manufacturer shall have produced at least 10 million square feet of similar material.
- B. The geocomposite installer must have at least three years of experience in the installation of such geocomposite. Also, the geocomposite installer must have installed at least 10 projects involving a total of 5 million square feet of similar material within the last three years.
- C. The geocomposite installer's supervisor must be on-site and be in responsible charge throughout the geocomposite installation. The supervisor must have supervised the installation of at least 2.5 million square feet of geocomposite.
- D. The geocomposite installer must establish a Quality Control (QC) representative who must be responsible in the field for the quality and integrity of the geocomposite installation, including all testing, inspections and documentation. The QC representative must have performed these duties on at least 2.5 million square feet of geocomposite.
- E. The CONTRACTOR is responsible for all means, methods, techniques, sequences and procedures related to the installation of the composite drainage net materials.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. The Composite Drainage Net Layer shall be comprised of a needle-punched, non-woven, continuous filament polypropylene geotextile fabric of at least 8 ounce which is factory heat-bonded to both sides to a high-density polyethylene (HDPE) geonet.
- B. The heat bonding technique between the geotextile and the geonet should be that of hot air to prevent flattening of the geotextile surface.
- C. Geocomposite Drainage Layer material delivered to the site shall be manufactured by Agru-America, GSE Lining Technology, Inc., Tenax Corporation, Skaps Industries, or approved equal and shall be tested for the frequencies and physical properties as follows:

GEOCOMPOSITE MANUFACTURER'S QUALITY CONTROL TESTS			
Material	Properties	Standard	Geocomposite Value
Geonet	Thickness	ASTM D5199	250 mil (min.)
	Density	ASTM D1505	0.940 g/cc (min.)
	Carbon Black Content	ASTM 1603	2%-3%
Geotextile	Mass per Unit Area	ASTM D5261	8.0 oz/yd ²
	Water Permittivity	ASTM D4491	1.8 sec ⁻¹
	Grab Tensile Strength	ASTM D4632	220 lbs
	Grab Elongation	ASTN D4632	50%
Geocomposite	Ply Adhesion	ASTM D7005	1.0 lbs/in (min.)
	Transmissivity (ultimate)	ASTM D4716	3.0 x 10 ⁻⁴ m ² /s (min.) Gradient = 0.5 and 0.33; Load = 1,000 psf
Note: Transmissivity shall be measured in a 12" by 12" box using the same boundary conditions, load, duration and gradient as those used by the manufacture to establish the minimum average for the required test value.			

D. As part of the CONTRACTOR's pre-construction testing (see Part 1.05), interface shear testing shall be performed on each interface of the final cover system in accordance with ASTM D5321. The geocomposite interfaces shall have the following shear strengths:

1. Composite Drainage Net/Geomembrane Liner under saturated conditions: >25°
2. Composite Drainage Net/Vegetative Support Soil under saturated conditions: >25°

PART 3 - EXECUTION

3.01 GENERAL

A. All work shall be performed in accordance with the Construction Drawings, these Specifications and any pertaining local ordinances.

3.02 PREPARATION

- A. The CONTRACTOR shall conduct all work necessary to ensure that the surface on which the composite drainage net is to be placed is free of irregularities, protrusions, loose soil, changes in grade, stones, rocks, sticks, roots, sharp objects, or debris of any kind which may damage the geocomposite or the underlying geomembrane.
- B. All geomembrane testing must be completed and passed before placing the composite drainage net.

3.03 COMPOSITE DRAINAGE NET INSTALLATION

- A. Geocomposite shall commence at the upgradient limit of work and progress in a downhill fashion. The panels may be placed by manually unrolling the geocomposite into position. No horizontal seams shall be within five feet of the toe of the slope or any anchor trench.
- B. Initially, a geocomposite panel shall be placed over a previously installed geocomposite panel, and then manually positioned on the geomembrane. This procedure eliminates the potential for the textured geomembrane to “grip” the bottom geotextile on the geocomposite prior to final placement. CONTRACTOR shall not drag geocomposite over the underlying textured geomembrane, and cause damage to the geotextile portion of the geocomposite, and thereby reducing the frictional characteristics. CONTRACTOR will be required to use a rub sheet if they propose to drag the geocomposite.
- C. After the geocomposite is positioned and overlapped on a previously placed panel, wrinkles shall be worked out of the geocomposite prior to seaming.
- D. The CQA CONSULTANT will inspect all deployed panels of geocomposite for proper adhesion of the geotextile to the geonet. If any areas of delamination are identified, they will be marked by the CQA CONSULTANT and replaced by the CONTRACTOR at no cost to the OWNER.
- E. Adjacent panels shall be laid smooth to provide a minimum width of 12 inches of geonet overlap along each joint and 2 feet at the end of the rolls. Adjacent panels shall be secured by plastic ties (supplied by the manufacturer) approximately every five (5) feet along the roll length and by sewing the overlapped geotextile. Plastic ties shall be white or other highly visible bright colors for easy inspection. Metallic ties shall not be allowed. Sewing threads shall be of a color that provides contrast to the color of the geotextile.
- F. Adjacent panels for end of roll seams shall be overlapped a minimum of 12 inches. All over laps shall be such that the upslope panel is placed over the down slope panel. The composite drainage net shall be tied every 6 inches along the overlap. A geotextile cap strip shall be installed and heat bonded to the composite drainage net across the entire seam. Horizontal end of roll seams shall be staggered every other panel upslope and downslope by a minimum of 15 feet
- G. All deployed panels must be provided with ballast to prevent their movement. The CONTRACTOR shall provide ballast, as needed, to prevent the movement of deployed geocomposite. At a minimum, sand in burlap bags should be placed every 1 to 2 feet along a seam. Sand bags shall be removed when placing or prior to placing the Subsoil Layer.
- H. The geocomposite shall be covered with the Vegetative Support Soil Layer as soon as possible after installation.

3.04 CONSTRUCTION TESTING

- A. Owner will retain the services of a GAI-LAP certified laboratory for performing construction testing on samples of the geocomposite.
- B. The manufacturer shall send a sample of the geocomposite every 500,000 square feet to an independent laboratory, as determined by Owner, to conduct construction testing. The samples shall be a minimum of three feet long by the entire roll width and shall not include the first five feet of roll length. These samples shall be analyzed for the parameters listed below.
 - 1. Ply Adhesion (ASTM D7005)
 - 2. Transmissivity (ASTM D4716)
- C. Geocomposite must pass the specifications as provided in Part 2.01 of this Section.
- D. OWNER and CERTIFYING ENGINEER reserve the right to require additional tests, and more frequent testing, when the materials do not comply with the specifications.

3.05 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.
- B. The composite drainage net layer shall be properly secured and/or ballasted so as to prevent uplift by wind.
- C. Vehicular movement over the composite drainage net layer shall not be permitted. No equipment shall be operated directly on the composite drainage net or other geosynthetic surface.
- D. Damaged composite drainage net and scrap material are the property of the CONTRACTOR and shall be removed from the site at the CONTRACTOR's expense. Excess unused material remaining at the completion of the job may be purchased by the OWNER. Prior to removing this material, the CONTRACTOR shall communicate with the OWNER on the final disposition of this material. The CONTRACTOR shall retain all ownership and responsibility for the geocomposite until final acceptance of the entire project by the OWNER.
- E. In the event of damage to prior work or work completed as specified in this Section, the CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of the OWNER, and at no additional cost to the OWNER.

- F. To protect the composite drainage net from UV deterioration, a protective plastic covering will be placed above the composite drainage net. This coverage will be removed progressively as a fill is placed on the material. The CONTRACTOR shall furnish and install the protective plastic covering.

3.06 WARRANTY

- A. The geocomposite manufacturer shall warrant that the geocomposite be free from manufacturing defects and that the geocomposite, when properly installed and maintained, shall not suffer significant deterioration due to normal weather aging.
- B. The geocomposite installer shall guarantee the geocomposite installation against defects in the installation and workmanship for one year commencing with the date of final acceptance.

****END OF SECTION****

SECTION 33 47 13
GEOMEMBRANE BARRIER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Contract Drawings and general provisions of the Contract, including General and Technical Specification and the Geosynthetics Testing Matrix, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all geomembrane liner materials, tools, supervision, equipment, and labor consisting of but not limited to: supplying quality control certificates from the manufacturer, providing pre-construction testing (Part 1.04) and construction testing (Part 3.04), transportation, proper storage and handling, layout and placement, patching, seam testing, removal of unsuitable materials, protection of installed materials and all work incidental to the proper installation of the geomembrane barrier, as specified herein and as indicated on the Contract Drawings.
- B. Coordinate final cover geomembrane liner installation with the placement of the base layer and the placement of the vegetative support layer.

1.03 MANUFACTURER'S TESTING REQUIREMENTS

- A. The GEOMEMBRANE MANUFACTURER shall supply the CONTRACTOR with quality control certificates on each roll of geomembrane delivered to the site. The certificates shall conform to testing frequencies and parameters as indicated in Part 2.01 of this Section. The certificates shall, at a minimum, indicate manufacturer's name, type of material, nominal thickness, roll width and length, and date of manufacture.
- B. Extrudate rod shall be manufactured of the same resin type as the geomembrane and shall have the physical properties as indicated in Part 2.01 of this Section.

1.04 PRE-CONSTRUCTION TESTING REQUIREMENTS

- A. The CONTRACTOR shall retain the services of a qualified geotechnical laboratory to conduct pre-construction tests on samples of geomembrane liner. Prior to manufacturing of the material, the manufacturer shall provide proof (preliminary testing, general product data, etc.) to the OWNER and CQA CONSULTANT that the Geomembrane can meet the strength and interface shear requirements as indicated in Part 2.01.
- B. The GEOMEMBRANE MANUFACTURER shall send samples of the geomembrane liner taken from rolls that will be delivered to the site to the geotechnical laboratory, as determined by the CONTRACTOR, to conduct pre-construction testing. Each sample

must be identified with the corresponding roll number. The laboratory shall conduct testing consisting of interface shear tests (ASTM D5321) on the following interfaces:

1. Geomembrane Liner and GCL
 2. Geomembrane Liner and Low Hydraulic Conductivity Soil
 3. Geomembrane Liner and Geocomposite Drainage Net
- C. Each test shall determine interface strength at normal stresses of 1 pound per square inch (psi), 2 psi, and 4 psi at a displacement rate of 0.04 inch/min or less. Each interface shear test shall be performed using the same installation procedures in order to represent actual field conditions. The proper orientation of the geosynthetics needs to be defined and simulate same field installation conditions, and be communicated to the laboratory. The laboratory shall also define geosynthetic orientation in the report. Tests shall be run on fully saturated materials. Additional samples shall be collected and tested if the material does not meet specifications as of Part 2.01 of this Section, at no additional cost to the OWNER.

1.05 LINE AND GRADE CONTROL

- A. The CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Contract Drawings and these Specifications.

1.06 SUBMITTALS

- A. The GEOMEMBRANE MANUFACTURER shall submit to the CONTRACTOR quality control certificates on each roll of the geomembrane. Such test results must document compliance with the specifications in Part 2.01 of this Section.
- B. The GEOMEMBRANE MANUFACTURER shall submit representative samples of the geomembrane liner (that will be delivered to the site) to a geotechnical laboratory for pre-construction testing and samples to a Geosynthetics Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) certified laboratory for construction testing. Such test results must document compliance with the specifications in Part 2.01 of this Section.
- C. The CONTRACTOR shall submit final cover geomembrane panel layout drawings for review and approval to the OWNER at least 14 days prior to beginning the installation of the geomembrane liner. The panel layout drawings shall be prepared at scale not less than 1" = 50'. Each drawing shall show the location of geomembrane panels, seam locations, pipe penetrations and anchor trench.
- D. CONTRACTOR shall submit acceptable verification of installer's qualifications and experience.
- E. During installation, the CONTRACTOR shall provide the following to the CQA CONSULTANT:

1. Daily construction progress reports clearly showing geomembrane panels placed by date.
2. Daily weld test records, including welder startup testing.
3. Daily records of field seam testing, destructive and non-destructive, for the geomembrane.
4. Laboratory test results on seam testing must be submitted to the CQA CONSULTANT within 72 hours of seaming, or work will not be permitted to continue.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Handle and store geomembrane rolls and associated materials in such a manner as to ensure a sound, undamaged condition. Procedures shall be in conformance with manufacturer's recommendations.
- B. Rolls will be stored at the job site away from high-traffic areas but sufficiently close to the active work area to minimize handling. The designated storage area should be flat, dry and stable.
- C. Only non-damaged geomembrane shall be included within the Work.
- D. The CONTRACTOR shall replace geomembrane material found to be damaged after delivery to the site, or as a result of unloading, storage, or handling by the CONTRACTOR, which is unable to meet the specifications of the project, as necessary. The CONTRACTOR will not be granted extensions to the completion dates as a result of the manufacturing lead time or delivery times required for the CONTRACTOR to replace damaged geomembrane material, unless otherwise approved in writing by the OWNER.

1.08 QUALIFICATIONS

- A. The GEOMEMBRANE MANUFACTURER must have at least five years' experience in the manufacture of the specified geomembrane material. In addition, the geomembrane manufacturer shall have produced at least 10 million square feet of similar material.
- B. The GEOMEMBRANE CONTRACTOR must have at least three years' experience in the installation of the specified geomembrane material. Also, the geomembrane installer must have installed at least 10 projects involving a total of 5 million square feet of similar material within the last three years.
- C. The GEOMEMBRANE CONTRACTOR's supervisor must be on-site and be in responsible charge for the full duration of the geomembrane installation. The supervisor must have supervised the installation of at least 2.5 million square feet of geomembrane.

- D. The GEOMEMBRANE CONTRACTOR must establish a Quality Control (QC) representative who must be responsible in the field for the quality and integrity of the geomembrane installation, including all testing, inspections, documentation and interaction with the CQA CONSULTANT. The QC representative must have performed these duties on at least 2.5 million square feet of geomembrane.
- E. The CONTRACTOR is responsible for all means, methods, techniques, sequences and procedures related to the installation of the geomembrane materials.

PART 2 - PRODUCTS

2.01 GEOMEMBRANE LINER

- A. The geomembrane liner shall be 60-mil textured Linear Low Density Polyethylene (LLDPE), as shown on the Contract Drawings. The texturing shall be evenly distributed on both sides of the membrane.
- B. Geomembrane materials shall be delivered to the site in rolls and shall be Micro Spike® as manufactured by Agru America, Inc. or approved equal.
- C. Geomembrane shall have a maximum coefficient of permeability of 1×10^{-12} cm/sec.
- D. The geomembrane material shall be tested to the frequencies and physical properties as follows:

Geomembrane Testing Frequency and Test Methods¹		
Test	Frequency	Value (Micro Spike®)
Thickness (ASTM D5994)	Each roll	57 mil (min. avg.) 8 out of 10 values ² = 54 mil (min.) 10 out of 10 values ³ = 51 mil (min.)
Asperity Height (ASTM D7466)	Every second roll	16 mil (min. avg.)
Formulated Density (ASTM D1505/792)	200,000 lbs.	0.939 g/ml (max.)
Tensile Properties (ASTM D6693 – Type IV)	20,000 lbs.	Strength @ Break: 90 ppi Elongation @ Break: 250%
2% Modulus (ASTM D5323)	per formulation	3600 lb/in. (max.)
Tear Resistance (ASTM D1004)	45,000 lbs.	33 lbs. (min. ave.)
Puncture Resistance (ASTM D4833)	45,000 lbs.	66 lbs. (min. ave.)
Axi-Symmetric Break Resistance Strain (ASTM D5617)	per formulation	30% (min.)
Carbon Black Content (ASTM D4218)	45,000 lbs.	2.0%-3.0%

Carbon Black Dispersion (ASTM D5596)	45,000 lbs.	9 values: Category 1 or 2 1 value: Category 3
Oxidative Induction Time (OIT) (e) Standard OIT (ASTM D8117) — or — (f) High Pressure OIT (ASTM D5885)	200,000 lbs.	100 (min. ave.) 400 (min. ave.)
Oven Aging at 85°C (ASTM D5721) (a) Standard OIT - % ret. after 90 days (ASTM D8117) — or — (b) High Pressure OIT - % ret. after 90 days (ASTM D5885)	per formulation	(a) 35 (min. ave.) (b) 60 (min. ave.)
UV Resistance (ASTM D7238) (a) Standard OIT (ASTM D8115) — or — (b) High Pressure OIT -% ret. after 1600 hrs. (ASTM D5885)	per formulation	N.R. ⁴ 35 (min. ave.)

Notes: 1. Properties presented in this table are based on GRI GM17, Test Methods, Test Properties and Testing Frequency for LLDPE Smooth and Textured Geomembranes, Revision 14, dated 3/17/2021.
2. Lowest individual for 8 out of 10 values.
3. Lowest individual for any of the 10 values.
4. Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.

As part of the pre-construction testing (see Part 1.04 of this Section), interface shear testing shall be performed on each interface of the final cover system in accordance with ASTM D5321. The geomembrane interfaces shall have the following minimum secant friction angles:

1. Geomembrane Liner and GCL under saturated conditions:
 $\geq 25^{\circ}$ (peak)
2. Geomembrane Liner and Low Hydraulic Conductivity Soil:
 $\geq 25^{\circ}$ (peak)
3. Geomembrane Liner and Composite Drainage Net:
 $\geq 25^{\circ}$ (peak)

PART 3 - EXECUTION

3.01 GENERAL

- A. All work shall be performed in accordance with the Contract Drawings, these Specifications and any pertaining local ordinances.

3.02 PREPARATION

- A. The CONTRACTOR shall conduct all work necessary to ensure that the surfaces on which the geomembranes are to be placed are free of irregularities, erosion rills, protrusions, loose soil, changes in grade, stones, rocks, sticks, roots, sharp objects, or

debris of any kind which may damage the geomembranes. No areas with standing water or which are excessively softened by high water content shall be allowed.

- B. The GCL and Low Hydraulic Conductivity Soil must be reviewed and approved before placing the geomembrane liner, on a form provided by the GEOMEMBRANE CONTRACTOR and approved of by the CQA CONSULTANT.

3.03 GEOMEMBRANE BARRIER INSTALLATION

- A. Panel placement should commence at the upgradient limit of work and progress in a downhill fashion. The panels may be placed by manually unrolling the geomembrane into position or by using heavy equipment provided the chosen method does not create ruts or other damage in the underlying materials or damage the geomembrane. No heavy equipment shall be used over the geomembrane. Rub sheets must be placed underneath all tools, generators, welding equipment, etc. while on the geomembrane. The geomembrane panels shall be, to the maximum extent possible, oriented parallel to the line of maximum slope, (i.e., oriented up and down, not across, the side slope). No horizontal seams shall be allowed on slopes unless otherwise approved by the CQA CONSULTANT. Seams parallel to the toe shall be at least 5 feet from the toe.
- B. After the geomembrane is completely unrolled it must be positioned. If the panel is being installed overlapping a previously placed panel as recommended by the geomembrane manufacturer, care must be taken to align the sheets for seaming. When positioned, wrinkles shall be worked out of the geomembrane, prior to seaming.
- C. Care must be taken to minimize the extent to which the geomembrane is dragged across underlying soils in order to avoid damage to the surface of the underlying soils. Due to the possible damage that can result from the textured surface of the geomembrane, the geomembrane panels **shall not** be dragged over the surface, except for slight adjustments as may be necessary for obtaining the correct overlap of panels. Rub sheets are **required** if the CONTRACTOR chooses to drag the geomembrane over the underlying surface, whether the surface is soil or another geosynthetic material.
- D. All deployed panels must be provided with ballast to prevent their movement. The CONTRACTOR shall provide ballast, as needed, to prevent the movement of deployed geomembrane. At a minimum, sand in burlap bags should be placed every 1 to 2 feet along a seam.
- E. **Geomembrane Seaming**
 - 1. All geomembrane seam welding shall be by the hot-wedge (fusion) weld method. The welding equipment shall form a double-track fusion weld seam with an air channel in between. Extrusion welding is allowed but shall be limited to detail work, patching, and tie-in to existing geomembrane, and shall not be used as a general method of seaming unless otherwise approved by the CQA CONSULTANT. The welding process shall be in accordance with the geomembrane manufacturer's recommendations.

2. Prior to field seaming, the geomembrane surface shall be free of dust, silt and debris. Furthermore, the welding surface must be dry and at the proper temperature as recommended by the geomembrane manufacturer. The installer should be equipped with an ample supply of clean rags to dry and remove dust from the welding surface. A means for preheating the seam prior to welding may be necessary in cold weather.
3. Seaming shall only be performed under proper weather conditions. The highest and lowest allowable ambient temperatures for welding are based on conditions such as ambient temperature, wind, subgrade conditions, exposure to sunlight, material type, and material thickness. Welding in such temperatures may be performed by increasing or decreasing the welding speeds and/or wedge temperature. Seaming shall not be performed during periods of precipitation. An ambient temperature between 32°F and 90°F as measured six inches above the geomembrane surface is recommended. The CQA CONSULTANT at its discretion may request cessation of seaming due to unacceptable weather conditions or may require an increase in the number of trial welds and/or supplemental destructive seam testing.
4. All seams shall extend the full length of the panels being joined. When seaming adjacent panels along an anchor trench, the seam shall extend completely through the anchor trench. Plywood or other flat surfaces shall be used to bridge the trench while welding the seam.
5. All "fish-mouths" and wrinkles on a seam shall be removed by cutting the geomembrane and installing an overlapping patch.
6. The GEOMEMBRANE CONTRACTOR shall not conduct any seaming operations without prior notification of the CQA CONSULTANT.

F. Patching

1. Once the geomembrane has been deployed, the panels must be examined for flaws, holes, defects and tears. Each location requiring a repair shall be repaired using the following procedures:
 - Patching - A patch shall be used to repair defects in the geomembrane which are 1/8-inch or larger.
 - Abrading and Re-welding - This procedure may be used to repair seam sections which are less than 10 feet in length
 - Spot Welding - Spot welding may be used to repair small tears, pinholes and/or other small defects.
 - Capping – Capping shall be used to repair failed seams that are greater than 10 feet in length.
2. Patches or caps shall extend at least six inches beyond the edge of the defect. The edges of the patch or cap shall be extrusion welded to the in place geomembrane after both the liners are abraded to remove the surface sheen of

the geomembrane and to provide a surface that is more conducive to accepting the weld. Welding of the repair patch or cap shall be completed by extrusion welding the geomembrane. The repairs shall be non-destructive tested using the vacuum-box method as described in this Section.

3. The GEOMEMBRANE CONTRACTOR shall not conduct repairs without prior notification of the CQA CONSULTANT.

G. Geomembrane Testing - Trial Weld Tests

1. The GEOMEMBRANE CONTRACTOR shall perform trial welds for each piece of welding equipment to be used as follows: at the beginning of each seaming period, at least once every four (4) hours, when the person running the welding equipment has changed, when the welding equipment has been shut-off or has been unused for a period for one hour or longer, and if there has been a 20°F rise or drop in ambient temperature since the last passing trial weld. The CQA CONSULTANT may require more frequent trial welds when the ambient air temperature is less than 40°F or the CQA CONSULTANT's observations of seam conditions warrant additional trial welds.
2. Trial welds shall be performed on fragment pieces of geomembrane, varying in length between three-feet (extrusion welds) to ten-feet (double-track welds) long and one (1) foot wide. Once completed, the weld shall be visually inspected for deficiencies before taking a minimum of six, one-inch wide random specimens from the trial weld. The six specimens shall be tested by the GEOMEMBRANE CONTRACTOR for peel and shear strength (three in peel, three in shear) using a field tensiometer with the results being properly recorded by the GEOMEMBRANE CONTRACTOR and CQA CONSULTANT. When peel testing is performed, both welds of double fusion welds shall be tested to provide an indication of the quality of the weld. The peel/shear strength of all specimens must meet or exceed the minimum seam strength requirements and exhibit a film tear bond (FTB). Only those pieces of equipment which provide passing test results shall be used for seaming or repair work.
3. Additional trial welds shall be performed for failed samples. This retesting procedure includes adjusting the temperature of the double-track hot-wedge (or extrusion welding gun) and/or the speed at which the double-track hot-wedge weld is performing. Once adjustments have been made, additional trial welds shall be made and tested. If the specimen fails the retest, the seaming apparatus and procedures will not be accepted and shall not be used for seaming until the deficiencies are corrected and a minimum of two consecutive successful trial welds are achieved.
4. The GEOMEMBRANE CONTRACTOR shall not conduct trial welds without prior notification of the CQA CONSULTANT.

H. Geomembrane Testing – Non-Destructive Tests

1. The GEOMEMBRANE CONTRACTOR shall perform non-destructive tests on all welds during the seaming process to establish seam continuity. All seams constructed in the field shall be subjected to non-destructive testing along their entire lengths (including seams which pass through the anchor trench).
2. The GEOMEMBRANE CONTRACTOR shall verify the continuity of the entire length of hot wedge welded field seams by performing an air pressure test.
3. The air pressure test shall be performed on all double-track hot-wedge welds. This test method involves the application of air pressure (27 to 30 psi) to the channel between the parallel welds and observing the stability of the pressure for the duration of the test. After a two-minute (minimum) relaxation period to stabilize the air pressure in the channel, the pressure shall be at least 27 psi before beginning the test. The test shall be at least 5 minutes in length. If a pressure loss exceeding 3 psi is observed, the seam shall be considered discontinuous (unacceptable) and repairs shall be made.
4. At the conclusion of a passing seam channel test, the end of the seam channel opposite the pressure test gauge must be cut to relieve the pressure. If the pressure gauge does not detect a drop in pressure it must be assumed that the seam channel is blocked. In this case, the location of the blockage must be identified and the seam retested in segments for continuity.
5. The GEOMEMBRANE CONTRACTOR shall verify all field seams constructed by the extrusion welding method by performing the vacuum box test.
6. The vacuum box test shall be used on seams which cannot be tested by air pressurization. After a generous amount of soapy solution has been applied to the seam length to be tested, the vacuum box test apparatus shall be placed over the seam and a vacuum of at least 2 psi shall be applied to the seam. The test apparatus shall stand at the applied vacuum for a period not less than 15 seconds. During the test, the response of the soapy solution shall be observed and noted. Bubbling of the solution indicates the presence of a hole or discontinuity. The location of holes and discontinuities shall be marked and repaired.
7. The GEOMEMBRANE CONTRACTOR shall not conduct any non-destructive seam tests without prior notification to the CQA CONSULTANT.

I. Geomembrane Testing –Destructive Tests

1. The GEOMEMBRANE CONTRACTOR shall verify that all seam welds are fully integrated with each other and evaluate seam strength by collecting seam samples for destructive testing. At a minimum, one seam sample shall be taken, at random, every 500 feet of seam length. The locations of seam samples shall

be determined by the CQA CONSULTANT. If field conditions warrant, or the CQA CONSULTANT suspects a seam may not have been constructed properly, samples may be collected at a greater frequency.

2. Each destructive sample, measuring twelve (12) inches wide and fifty (50) inches long, shall be cut from the seam by the GEOMEMBRANE CONTRACTOR. Ten 1-inch wide by 12-inch long specimens shall be cut from each sample by the GEOMEMBRANE CONTRACTOR. Each specimen shall be tested in the field by the GEOMEMBRANE CONTRACTOR for peel and shear strength (five in peel, five in shear) using a field tensiometer with the results being properly recorded by the GEOMEMBRANE CONTRACTOR and CQA CONSULTANT. When peel testing is performed, both welds of double fusion welds shall be tested to provide an indication of the quality of the weld. The peel/shear strength of all specimens must meet or exceed the minimum seam strength requirements and exhibit a film tear bond (FTB). If the sample passes the field peel and shear tests, the remaining sections shall be cut and distributed as follows:
 - one 12 inch by 12 inch section for the OWNER's archives,
 - one 12 inch by 12 inch section for the GEOMEMBRANE CONTRACTOR, and
 - one 12 inch by 18 inch section for shear and peel testing by the CQA CONSULTANT'S independent laboratory.
3. Each of the 12-inch by 18-inch samples for laboratory testing shall provide 10 specimens: five for shear and five for peel. When peel testing is performed, both welds of double fusion welds shall be tested to provide an indication of the quality of the weld. All specimens shall exhibit a film tear bond (FTB). The peel (shear) strength of four out of five specimens in peel (shear) shall meet or exceed the minimum seam strength requirements. The fifth specimen must meet or exceed 80% of the minimum seam strength requirements.
4. If the sample fails the peel and shear tests by the CQA CONSULTANT'S laboratory, then the GEOMEMBRANE CONTRACTOR has the following options to reconstruct the seam between the failed location and any passed test section, which includes:
 - cap stripping of the seam, or
 - replacing the failed seam with a new two foot wide panel which is double-track welded to the adjacent panels, or
 - retrace the failed seam in both directions, by taking additional samples for destructive testing and conducting field peel and shear tests, until the length of the poor quality seam is established. Additional destructive samples shall be collected at minimum intervals of ten (10) feet from the location of the failed sample. Upon attaining passing results from the destructive samples,

the seam shall be reconstructed between the passing location and the original failed location.

5. All passing seams shall be bounded by two locations from which passing laboratory destructive tests have been taken. Reconstructed seams of over 50 feet or more in length must have a sample taken from the reconstructed seam in order to pass the destructive testing.
6. Testing of the geomembrane seams shall be performed by ASTM D6392, in conjunction with GRI-GM19a. Seam strength requirements for the Geomembrane Barrier are as follows:

60 mil textured LLDPE	Peel Strength	Peel Separation	Shear Strength	Shear Elongation ¹
Hot Wedge Seams	75 ppi	25%	90 ppi	50%
Extrusion Fillet Seams	66 ppi	25%	90 ppi	50%

Note: 1. Elongation measurements are not required for field testing, laboratory only.

3.04 CONSTRUCTION TESTING

- A. The CONTRACTOR will retain the services of a GAI-LAP certified laboratory for performing construction testing on samples of the geomembrane liner.
- B. The GEOMEMBRANE MANUFACTURER shall send a sample of the geomembrane every 100,000 square feet to the GAI-LAP certified laboratory, as determined by the CONTRACTOR, to conduct construction testing. The samples shall be a minimum of three feet long by the entire roll width and shall not include the first five feet of roll length. These samples shall be analyzed for the parameters listed below.
 1. Thickness (ASTM D5994)
 2. Asperity Height (ASTM D7466)
 3. Density (ASTM D1505)
 4. Tensile Properties (ASTM D6693)
 5. Tear Resistance (ASTM D1004)
 6. Puncture Resistance (ASTM D4833)
 7. Carbon Black Content (ASTM D4218)
 8. Carbon Black Dispersion (ASTM D5596)

- C. Geomembrane must pass the specifications as provided in Part 2.01 of this Section.
- D. OWNER and DESIGN ENGINEER reserves the right to require additional tests, and more frequent testing, when the materials do not comply with the specifications, at no additional cost to the OWNER.

3.05 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.

- B. The geomembrane shall be properly secured and/or ballasted so as to prevent uplift by wind or landfill gases.
- C. Vehicular movement over the geomembrane shall not be permitted until the full depth of the vegetative support layer has been placed.
- D. Damaged geomembrane and scrap material, from the installation process, are the property of the CONTRACTOR and shall be removed from the site at the CONTRACTOR's expense. Excess unused material remaining at the completion of the job may be purchased by the OWNER. Prior to removing this material, the CONTRACTOR shall communicate with the OWNER on the final disposition of this material. The CONTRACTOR shall retain all ownership and responsibility for the geomembrane until final acceptance of the entire project by the OWNER.
- E. In the event of damage to prior work or work completed as specified in this Section, the GEOMEMBRANE CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of the OWNER, and at no additional cost to the OWNER.

3.06 RECORD DRAWINGS

- A. The CONTRACTOR shall submit “as-built” Record Drawings of the final cover geomembrane liner to the OWNER within 10 business days after the completion of the final cover project. The drawings shall show geomembrane panel locations, panel numbers, and destructive sample locations and be at a scale not smaller than 1 inch = 50 feet. Two reproducible hard copies and one digital copy (AutoCAD 2011 or later) shall be provided.

3.07 WARRANTY

- A. The GEOMEMBRANE MANUFACTURER shall warrant that the geomembrane liner be free from manufacturing defects and that the geomembrane, when properly installed and maintained, shall not suffer significant deterioration due to normal weather aging.
- B. The GEOMEMBRANE CONTRACTOR shall guarantee the geomembrane installation against defects in the installation and workmanship for one year commencing with the date of final acceptance.

****END OF SECTION****

SECTION 33 47 14
GEOSYNTHETIC CLAY LINER

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Division 1 – General Specification sections, apply to the work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work in this Section includes the furnishing of all materials, tools, supervision, equipment, and labor consisting of but not limited to: transportation, proper storage and handling, geosynthetic clay liner (GCL) layout and placement, patching, removal of unsuitable materials, protection of installed materials and all work incidental to the proper installation of the GCL, as specified herein and as indicated on the Drawings.
- B. Coordinate the GCL installation with the placement of the base layer and the deployment of the geosynthetics (geomembrane liner and composite drainage net layers).
- C. CONTRACTOR will provide the GCL material and bentonite seaming compounds.
- D. CONTRACTOR shall be responsible for GCL material staging areas, unloading, stockpiling, storage, and protection.

1.03 RELATED WORK

- A. Section 33 47 13 – Geomembrane Barrier
- B. Section 33 46 01 – Composite Drainage Net
- C. Section 31 23 05 – Base Layer

1.04 MANUFACTURER'S CONFORMANCE TESTING REQUIREMENTS

- A. Prior to manufacturing of the material, the manufacturer shall provide proof (preliminary testing, general product data, etc.) to the OWNER and CQA CONSULTANT that the GCL can meet the strength and interface shear requirements as indicated in Part 2.01.
- B. The manufacturer shall provide quality control certificates on each roll of GCL delivered to the site. The certificates shall be prepared by the GCL manufacturer and shall conform to the testing frequencies and parameters as indicated in Part 2.01 of this Section. The certificates shall indicate manufacturer's name, type of material, nominal thickness, roll width and length, and date of manufacture.

1.05 PRE-CONSTRUCTION TESTING REQUIREMENTS

- A. CONTRACTOR will retain the services of a Geosynthetics Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) certified laboratory for performing pre-construction testing required in this Section. The results of all testing shall be completed before any GCL is incorporated into the work or shipped to the project site.
- B. The CONTRACTOR shall have the manufacturer send samples of the GCL taken from rolls that will be delivered to the site to an independent laboratory, to conduct pre-construction testing. Each sample must be identified with the corresponding roll number. The CONTRACTOR shall have the qualified laboratory conduct interface shear tests (ASTM D5321) on the following interfaces:
 - 1. GCL and each source of the base layer material,
 - 2. GCL and the 60-mil textured LLDPE geomembrane,
- C. CONTRACTOR shall have a GAI-LAP certified laboratory perform interface shear testing in accordance with ASTM D6243, at normal stresses of 1 pounds per square inch (psi), 2 psi, and 4 psi at a displacement rate of 0.04 in/min or less. Each shear test shall be performed using the same installation procedures and actual materials used for the project, in order to represent actual field conditions. The proper orientation of the geosynthetics needs to be defined and simulate same field installation conditions, and be communicated to the laboratory. The laboratory shall also define geosynthetic orientation in the report. Tests shall be run on fully saturated materials under drained conditions at 1 psi for 24 hours, then apply the normal loads as specified for 24 hours prior to shearing, to a minimum horizontal displacement of 3 inches. Additional samples shall be collected and tested if the material does not meet specifications as of Part 2.01 of this Section, at no additional cost to OWNER or CQA CONSULTANT.
- D. The Manufacturer will be responsible for demonstrating that the proposed materials can meet the required strength and interface shear requirements of these specifications, at no additional cost to OWNER or CQA CONSULTANT. If materials cannot meet the requirements, then use of another product will be required.

1.06 LINE AND GRADE CONTROL

- A. The CONTRACTOR is responsible for line and grade control for all aspects of the work in this Section in accordance with the Drawings and these Specifications.

1.07 SUBMITTALS

- A. The manufacturer shall provide quality control certificates on each roll of the GCL. Such test results must document compliance with the specifications in Part 2.01 of this Section.
- B. The CONTRACTOR shall have the manufacturer provide representative samples of the GCL (that will be delivered to the site) to an independent qualified laboratory, for pre-construction and construction testing. Such test results must document compliance with the specifications in Part 2.01 of this Section.

- C. CONTRACTOR shall submit acceptable verification of installer's qualifications and experience.

1.08 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Handle and store GCL rolls and associated materials in such a manner as to ensure a sound, undamaged condition. Procedures shall be in conformance with manufacturer's recommendations.
- B. All GCL rolls shall be delivered and stored in separate plastic bags.
- C. Rolls will be stored at the job site away from high-traffic areas but sufficiently close to the active work area to minimize handling. The designated storage area should be flat, dry and stable. Moisture protection of GCL rolls should be provided by its packaging; however, an additional tarpaulin or plastic sheet is recommended to provide extra protection.

1.09 QUALIFICATIONS

- A. The manufacturer must have at least five years' experience in the manufacture of GCL products. In addition, the GCL manufacturer shall have produced at least 10 million square feet of similar material.
- B. The installer must have at least three years' experience in the installation of GCL products. Also, the installer must have installed at least 10 projects involving a total of 5 million square feet of similar material within the last three years.
- C. The installer's supervisor must be on-site and be in responsible charge for the full duration of the GCL installation. The supervisor must have supervised the installation of at least 2.5 million square feet of GCL at a minimum of five different projects.
- D. The installer must establish a Quality Control (QC) representative who must be responsible in the field for the quality and integrity of the GCL installation, including all testing, inspections, documentation and interaction with CQA CONSULTANT. The QC representative must have performed these duties on at least 2.5 million square feet of GCL.
- E. The CONTRACTOR is responsible for all means, methods, techniques, sequences and procedures related to the installation of the GCL materials.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Geosynthetic Clay Liner
 - 1. The GCL shall be a uniform layer of granular sodium bentonite encapsulated between two 6-ounce non-woven geotextiles, needle-punched together.

2. The GCL shall be delivered to the site in rolls and shall consist of GSE BentoLiner NWL-35 as manufactured by GSE Environmental, or approved equal.
3. All GCL rolls delivered to the site shall have the minimum physical properties specified below.

GEOSYNTHETIC CLAY LINER PROPERTIES AND QUALITY CONTROL TESTING REQUIREMENTS			
Material	Test	Standard	GCL Values
GCL	Bentonite Swell Index	ASTM D5890	24 ml/2g (min.)
	Bentonite Fluid Loss	ASTM D5891	18 ml (max.)
	Bentonite Mass/Area ¹	ASTM D5993	0.75 lbs/sf (min.)
	GCL Moisture Content	ASTM D5993	35 % (max.)
	GCL Tensile Strength (MD)	ASTM D6768	23 lbs/in (min.)
	GCL Peel Strength ²	ASTM D6496	2.1 lbs/in. (min.)
	GCL Permeability ³	ASTM D5887	5x10 ⁻⁹ cm/sec. (max.)
	GCL Index Flux ⁴	ASTM D5887	1x10 ⁻⁶ cm ³ /cm ² /sec. (max.)
	GCL Hydrated Internal Shear Strength	ASTM D6243	500 psf

Note: All GCL testing shall be in accordance with GRI-GCL 3, last revised November 21, 2019.

¹ Bentonite mass/area reported at 0% moisture content.

² Modified to use a 4-inch wide grip. The maximum peak of five specimens averaged.

³ Testing to be performed with water @ 5-10 psi maximum effective confining stress and 2 psi head.

⁴ Typical peak value for specimen hydrated for 24 hours and sheared at a 200 psf normal stress.

4. CONTRACTOR shall have a GAI-LAP certified laboratory perform interface shear testing in accordance with ASTM D6243, at normal stresses of 1 pounds per square inch (psi), 2 psi, and 4 psi at a displacement rate of 0.04 in/min or less. Each shear test shall be performed using the same installation procedures and actual materials used for the project, in order to represent actual field conditions. The proper orientation of the geosynthetics needs to be defined and simulate same field installation conditions, and be communicated to the laboratory. The laboratory shall also define geosynthetic orientation in the report. Tests shall be run on fully saturated materials under drained conditions at 1 psi for 24 hours, then apply the normal loads as specified for 24 hours prior to shearing, to a minimum horizontal displacement of 3 inches. Additional samples shall be collected and tested if the material does not meet specifications as of Part 2.01 of this Section, at no additional cost to OWNER or CQA CONSULTANT.
5. The GCL interfaces shall have the following minimum secant friction angles:
 - a) GCL and Base Layer Material (85 percent of the maximum dry density and 3 to 8 percent above the optimum moisture content under saturated conditions)

$\geq 25^\circ$ (peak)
 - b) GCL and 60-mil Textured LLDPE Geomembrane under saturated conditions.

≥25° (peak)

6. A 12-inch overlap guideline shall be imprinted on both edges of the upper geotextile component of the GCL as a means for providing quality assurance of the overlap dimension. Lines shall be printed in easily visible, non-toxic ink.
7. The granular bentonite or bentonite sealing compound used for seaming, penetration sealing and repairs shall be made from the same bentonite as used in the GCL and shall be as recommended by the GCL manufacturer.

2.02 ANCHOR TRENCH

- A. The CONTRACTOR shall excavate an anchor trench at locations as shown on the Drawings. The backfill material shall be a clean soil, free of contamination, sharp rocks, debris of any kind, organic matter, vegetation, and other unsuitable materials over 3 inches in diameter.

PART 3 - EXECUTION

3.01 GENERAL

- A. All work shall be performed in accordance with the Drawings, these Specifications and any pertaining local ordinances.

3.02 PREPARATION

- A. The CONTRACTOR shall prepare areas by installing the base layer as shown on the Drawings and specified in Sections 31 23 05.
- B. Before the GCL installation begins, the CONTRACTOR shall:
 1. Prepare the surface on which the GCL is to be placed so that it is free of irregularities, erosion rills, protrusions, loose soil, and abrupt changes in grade. The CONTRACTOR shall re-grade areas of the base layer that are uneven, or have ruts or voids greater than 1-inch, or in the opinion of the CQA CONSULTANT will restrict flow of stormwater.
 2. Remove standing water from areas where the GCL will be placed.
- C. The surface on which the GCL is to be placed shall not contain stones, rocks, sticks, roots, sharp objects, or debris of any kind that may damage the GCL. No areas with standing water or that are excessively softened by high water content shall be allowed.
- D. GCL shall not be placed on frozen ground.
- E. The installer and CQA CONSULTANT shall view the condition of the base layer and issue a subgrade acceptance form for the underlying base layer prior to the installation of the GCL.

3.03 GCL INSTALLATION

- A. Panel placement should commence at the upgradient limit of work and progress in a downhill fashion. The panels can be placed by manually unrolling the GCL into position or by using equipment provided the chosen method does not create ruts in the underlying base layer or damage the GCL. The panels should be oriented parallel to the line of maximum slope, i.e., oriented up and down, not across the slopes.
- B. GCL rolls should be delivered to the working area of the site in their original packaging. Immediately prior to deployment, the packaging should be carefully removed without damaging the GCL. The orientation of the GCL (i.e., which side faces up) should be in accordance with the manufacturer's recommendations. Unless otherwise specified, however, the GCL shall be installed such that the product name printed on one side of the GCL faces up.
- C. Equipment that could damage the GCL will not be permitted to travel directly on it. If the installation equipment causes rutting in the base layer, the base layer must be restored to its originally accepted condition before GCL placement continues.
- D. Care must be taken to minimize the extent to which the GCL is dragged across the base layer in order to avoid damage to the bottom surface of the GCL. A temporary geosynthetic low permeability covering commonly known as a slip sheet or rub sheet shall be used to reduce friction damage during placement to the underlying soil or the GCL. GCL panels shall not be dragged over the base layer surface, except for slight adjustments.
- E. All GCL panels should lie flat on the underlying surface, with no wrinkles or fold, especially at the exposed edges of the panels.
- F. Only as much GCL shall be deployed as can be covered by the end of the working day with geomembrane or a temporary waterproof tarpaulin. The GCL shall not be left uncovered overnight. If the GCL is hydrated when no confining stress is present, it may be necessary to remove and replace the hydrated material. OWNER, CERTIFYING ENGINEER and/or CQA CONSULTANT shall be consulted for specific guidance if premature hydration occurs. The CONTRACTOR will be responsible for replacing any GCL which was hydrated as a result of the CONTRACTOR's negligence.
- G. The CONTRACTOR shall carefully coordinate the sequential placement of the liner materials. The condition of the base layer (i.e. compaction, moisture content, grade, and smoothness) must be approved by CQA CONSULTANT before deployment of the GCL. The CONTRACTOR shall not cause damage, including but not limited to rutting, bumps, or indentations, to the underlying base layer during placement of the GCL, as determined by OWNER and CQA CONSULTANT.

3.04 GCL SEAMING

- A. The GCL seams shall be constructed by overlapping their adjacent edges. Care should be taken to ensure that the overlap zone is not contaminated with loose soil or other debris. All seams shall be enhanced with sodium bentonite supplied with the GCL rolls.

- B. The minimum dimension of the longitudinal overlap should be 12 inches. End-of-roll overlapped seams shall be similarly constructed, but the minimum overlap shall be 24 inches. No lap seams parallel to the slope shall be allowed on slopes steeper than 7H:1V.
- C. Seams at the end of the panels shall be constructed such that they are shingled in the direction of the grade to prevent the potential for run off to enter the overlap zone.
- D. Bentonite-enhanced seams shall be constructed between the overlapping adjacent panels described above. The underlying edge of the longitudinal overlap is exposed and then a continuous bead of granular sodium bentonite shall be applied along a zone defined by the edge of the underlying panel and the 12-inch line. A similar bead of granular sodium bentonite shall be applied at the end-of-roll overlap. The bentonite shall be applied at a minimum application rate of one-quarter pound per lineal foot.

3.05 PIPE PENETRATIONS

- A. A secondary collar of GCL shall be placed around the penetration as shown on the Drawings. When placing this collar, the penetration outline should first be traced onto the collar, and then a "star" pattern should be cut into the collar to enhance its fit to the penetration. The collar shall overlap the primary GCL a minimum of 1-foot in each direction, and granular bentonite shall be placed along the seam of the secondary GCL collar and the primary GCL at a rate of 2 pounds per linear foot.

3.06 CONSTRUCTION TESTING

- A. CONTRACTOR will retain the services of a GAI-LAP certified laboratory for performing construction testing on samples of the GCL.
- B. The CONTRACTOR shall sample the GCL according to the frequencies below, to an independent qualified laboratory, to conduct construction testing. The samples shall be a minimum of three feet long by the entire roll width and shall not include the first five feet of roll length. The samples shall be analyzed for the parameters listed below.
 - 1. Bentonite Mass/Unit (ASTM D5993) – one test every 50,000 sq. ft.
 - 2. Peel Strength (ASTM D6496) – one test every 50,000 sq. ft.
 - 3. Index Flux (ASTM D5887) – one test every 150,000 sq. ft.
- C. GCL must pass the specifications as provided in Part 2.01 of this Section.
- D. The OWNER, CERTIFYING ENGINEER, and/or CQA CONSULTANT reserve the right to require additional tests, and more frequent testing, when the materials do not comply with the specifications.

3.07 GCL DAMAGE REPAIR AND DETAIL WORK

- A. If the GCL is damaged (torn, punctured, perforated, etc.) during installation, it shall be repaired by cutting a patch to fit over the damaged area. The patch shall be obtained from a new GCL roll and shall be cut to size such that a minimum overlap of approximately 12 inches is achieved around all of the damaged area. Dry sodium bentonite or sodium bentonite mastic shall be applied around the damaged area prior to placement of the patch. It is desirable to use an adhesive to affix the patch in place so that it is not displaced during cover placement.
- B. The GCL shall be sealed around penetrations and embedded structures in accordance with the Drawings and the GCL manufacturer's recommendations.
- C. Cutting the GCL should be performed using a sharp utility knife. Frequent blade changes are recommended to avoid damage to the geotextile components of the GCL during the cutting process.

3.08 PROTECTION OF INSTALLED MATERIALS

- A. The CONTRACTOR shall be responsible for maintaining installed materials and preventing their damage.
- B. The GCL shall be properly secured and/or ballasted so as to prevent uplift by wind.
- C. Vehicular movement over the GCL shall not be permitted until the full depth of the drainage soils have been placed.
- D. Damaged GCL and scrap material are the property of the CONTRACTOR and shall be removed from the site at the CONTRACTOR'S expense. The CONTRACTOR shall retain all ownership and responsibility for the GCL until final acceptance of the entire project by OWNER.
- E. To protect the GCL against hydration, the CONTRACTOR shall cover the GCL with a plastic film or geomembrane barrier on a daily basis. The film or barrier shall be weighted down with sand bags or other materials to prevent transfer of air or liquid between the plastic film and GCL.
- F. In the event of damage to prior work or work completed as specified in this Section, the CONTRACTOR shall immediately make all repairs and replacements necessary, to the approval of OWNER, and at no additional cost to OWNER.

3.09 WARRANTY

- A. The manufacturer shall warrant that the GCL be free from manufacturing defects and, when properly installed and maintained, shall not suffer significant deterioration due to normal weather aging.
- B. The CONTRACTOR shall guarantee the GCL installation against defects in the installation and workmanship for one year commencing with the date of final acceptance.

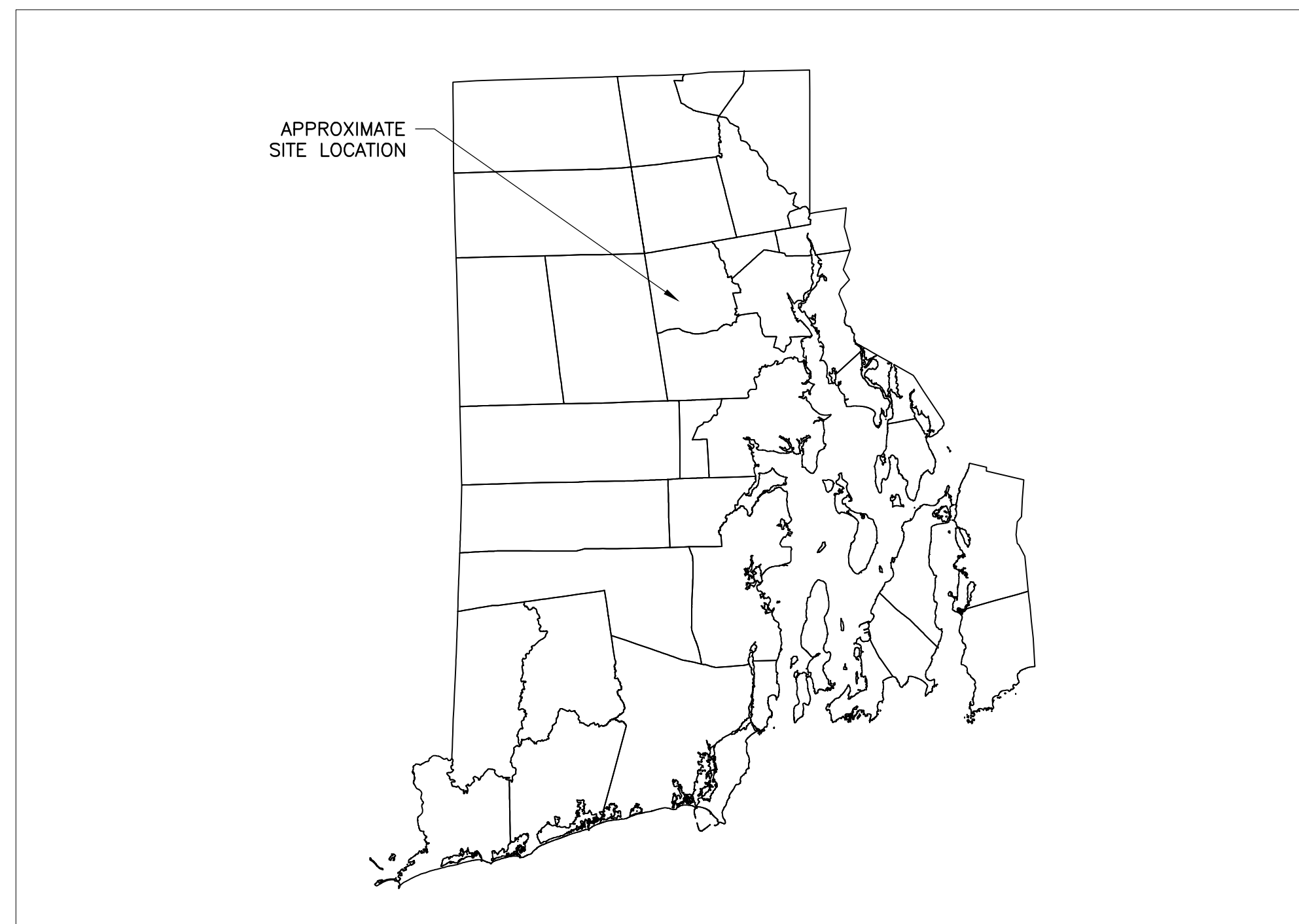
****END OF SECTION****

OPERABLE UNIT 1 (OU1) EXISTING FINAL COVER REPAIR CENTRAL LANDFILL

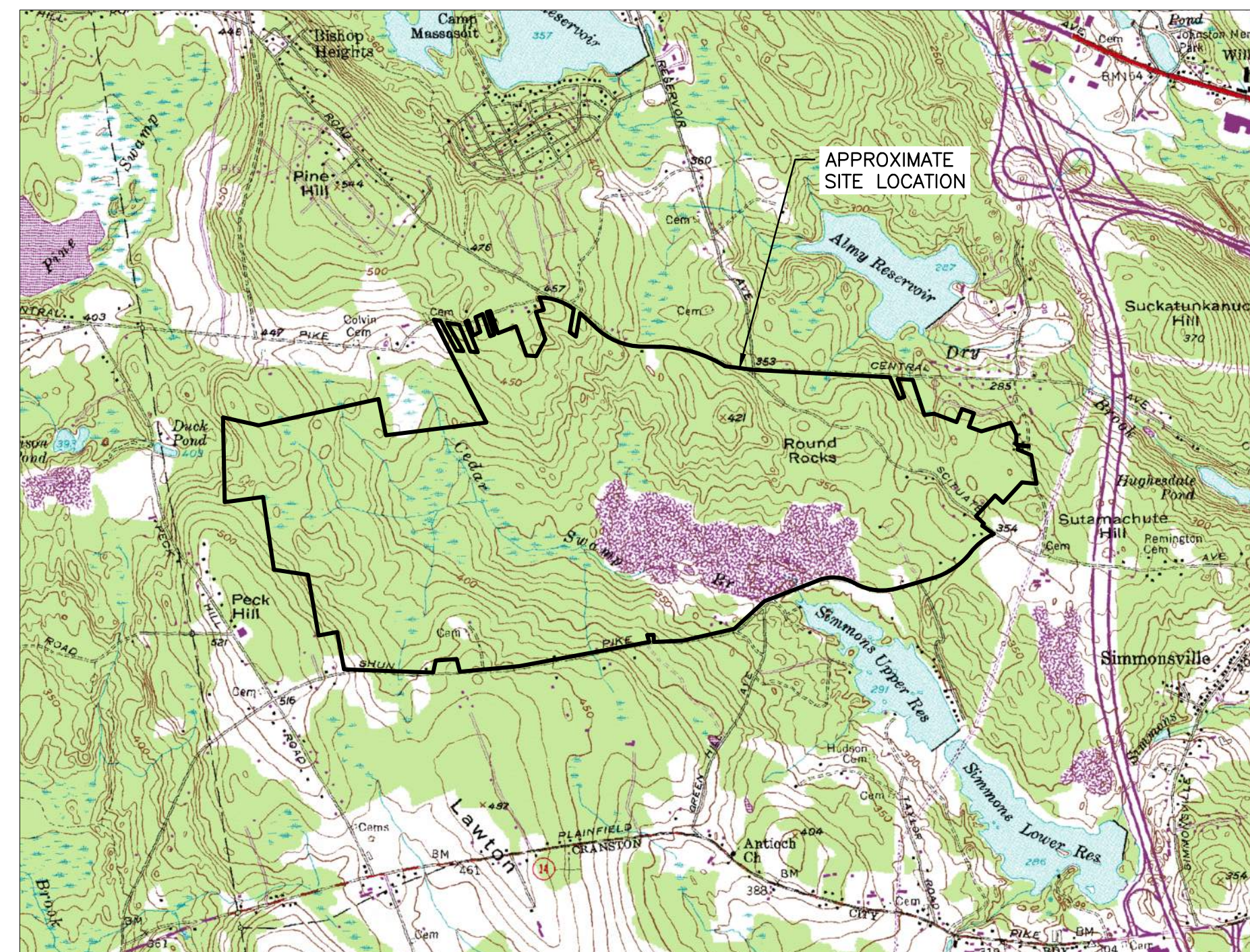
JOHNSTON, RHODE ISLAND

PREPARED FOR:

Rhode Island Resource Recovery Corporation
65 Shun Pike, Johnston, Rhode Island 02919



LOCATION OF SITE IN RHODE ISLAND



SITE LOCUS

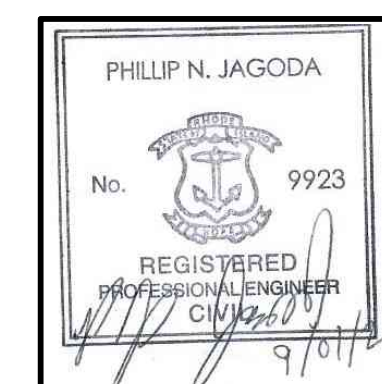
SOURCE: USGS

DRAWING INDEX:

- | | |
|------|--------------------------|
| C000 | TITLE SHEET |
| C100 | EXISTING CONDITIONS PLAN |
| C101 | PROPOSED LIMIT OF WORK |
| C800 | DETAIL SHEET |

RFP #371

SEPTMEBER 2026



TITLE SHEET
RFP #371

DRAWING NO.:
C000

SHEET 1 OF 4

DATE: SEPTEMBER 2025
DRAWN BY: SBM
PROJECT NO.: 382-164
CHECKED BY: PNJ
APPROVED BY: PNJ

**RHODE ISLAND RESOURCE
RECOVERY CORPORATION**
**OPERABLE UNIT 1 (OU1) FINAL COVER REPAIR
CENTRAL LANDFILL**
JOHNSTON, RHODE ISLAND



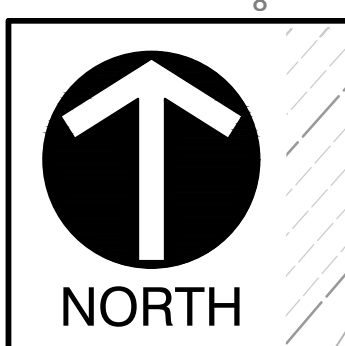
31 Bellows Road
Raynham, MA 02767
Ph. 774.501.2176
www.cecinc.com

REVISION RECORD

NO.	DATE	DESCRIPTION

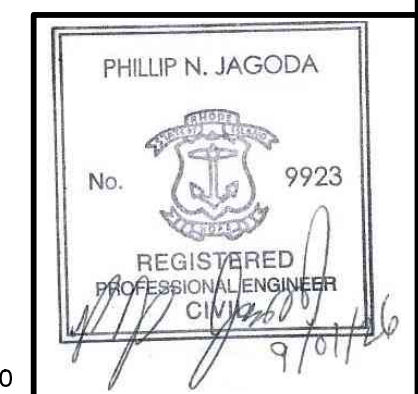
ENGINEERING, SURVEYING AND LANDSCAPE ARCHITECTURE IN THE STATE OF NORTH CAROLINA WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF N.C., P.L.L.C. SERVICES IN PUERTO RICO WILL BE PROVIDED BY CEC SURVEYING AND LANDSCAPE ARCHITECTS OF P.R., P.L.L.C. SERVICES IN THE STATE OF OHIO WILL BE PROVIDED BY CEC LANDSCAPE ARCHITECTS, L.L.C.

\\cecin.com\\global\\Project\\382-164-194\\CADD\\DWG\\C101.dwg (Phase I) - 10/1/2026 10:31 AM



LEGEND	
	EXISTING CONTOUR
	LIMIT OF WETLANDS
	EXISTING TREE LINE
	EXISTING CELL LIMIT
	EXISTING FINAL COVER LIMIT
	EXISTING GRAVEL ACCESS ROAD
	PROPERTY BOUNDARY
	EXISTING LANDFILL GAS PIPE
	PROPOSED LIMIT OF DISTURBANCE
	EXISTING LANDFILL GAS WELL

- GENERAL NOTES:**
- EXISTING CONDITIONS SHOWN ON THIS DRAWING WAS COMPILED FROM AERIAL SURVEY, DATED MARCH 18, 2026.
 - PRIOR TO START OF WORK, CONTRACTOR WILL BE REQUIRED TO SURVEY AND DETERMINE ALL TIE-IN LOCATIONS FOR ADJACENT EXISTING FINAL COVER LOCATIONS. CONTRACTOR MAY NEED TO FILL OR EXCAVATE AREAS OF THE PROJECT WORK AREA TO MEET TIE-IN GRADES AT ADJACENT COMPLETED FINAL COVER AREAS. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ANY AREAS REQUIRING FIELD ADJUSTMENTS AND REVIEW WITH OWNER PRIOR TO STARTING WORK. CONTRACTOR WILL BE REQUIRED TO TEST PIT ALONG THE LIMITS OF ASSUMED REPAIR AREA AS SHOWN ON THE PLAN. OWNER, ENGINEER, AND CONTRACTOR WILL REVIEW THE CROSS SECTION OF THE FINAL COVER SOILS ALONG THE PERIMETER OF THE REPAIR AREA ONCE EXPOSED TO CONFIRM TYPICAL FINAL COVER SOIL THICKNESS. IF THE EXISTING FINAL COVER GEOSYNTHETICS APPEAR DAMAGED, COMPROMISED, OR DEPRESSED BEYOND THESE LIMITS, CONTRACTOR, OWNER, AND ENGINEER WILL REVIEW EXISTING CONDITIONS AND EXTEND THE LIMITS BEYOND THE REPAIR AREAS SHOWN ON THE PLANS.
 - EXISTING CONTOURS SHOWN WITHIN THE LIMITS OF THE PROJECT MAY NOT REFLECT ACTUAL CONDITIONS WHEN CONTRACTOR MOBILIZES AS ONGOING OPERATIONS AND LANDFILL SETTLEMENT ARE OCCURRING DAILY. CONTRACTOR SHOULD VERIFY EXISTING CONDITIONS WITH OWN SURVEY PRIOR TO START OF WORK.
 - SOME AREAS MAY REQUIRE FIELD ADJUSTMENTS (FILLING OR EXCAVATING) TO MEET THE PROJECT REQUIREMENTS. CONTRACTOR TO REVIEW WITH OWNER AND DESIGN ENGINEER PRIOR TO START OF WORK.
 - THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL AND MAINTENANCE FOR RUN-OFF AND RUN-ON FOR THE PROJECT.
 - EQUIPMENT EXCEEDING THE MAXIMUM GROUND PRESSURE REQUIREMENTS IN THE CONTRACT SPECIFICATIONS WILL NOT BE ALLOWED TO TRAVEL OVER GEOSYNTHETICS OR LANDFILL GAS PIPES WITH LESS THAN 3 FEET OF MATERIAL. CONTRACTOR REQUIRED TO CONSTRUCT 3-FT THICK (MIN.) ACCESS ROADS ABOVE EXISTING FINAL COVER FOR ALL PROPOSED AREAS OF TRAVEL. ALIGNMENT OF ACCESS ROAD WILL VARY BASED ON FIELD CONDITIONS. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ACTUAL LOCATION AT TIME OF CONSTRUCTION. CONTRACTOR REQUIRED TO REPLACE TOPSOIL AND SEED ALL DISTURBED AREAS UPON COMPLETION OF PROJECT.



PROPOSED LIMIT OF WORK RFP #371	REVISION RECORD	
DATE: SEPTEMBER 2025		NO.
DRAWN BY: SBM		DESCRIPTION
CHECKED BY: PNJ		
T"= 40"		
PROJECT NO: 382-164		
APPROVED BY: PNJ		
DRAWING NO: C101		
SHEET 3 OF 4		

RHODE ISLAND RESOURCE RECOVERY CORPORATION
OPERABLE UNIT 1 (OU1) FINAL COVER REPAIR
CENTRAL LANDFILL
JOHNSTON, RHODE ISLAND

31 Bellows Road
Raynham, MA 02767
Ph: 774.501.2176
www.cecin.com

Civil & Environmental Consultants, Inc.

